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ith the approximation of a wisdom acquired slowly through the years, I've what I do or say isn't always the best course of action. And when it comes to woodworking matters, well, the situation is even more interesting.

Play it safe

Like most of us, I tend to stick to tried and trusted methods of work and construction; proved to be safe, non-life threatening and that may have also led to satisfactory sample novel methods of working as well as a surprising amount of new kit and

Sea of change

decade or so has seen an enormous improvement in engineering design and manufacture, massive advancements in technology across all fields; all culminating in a

Destination New

From fine tools to finishes - via machines and the odd power tool or two - I have journeyed far through a lexicon of new kit on a general quest for improved woodworking. It really is all to easy to avoid change and play it safe, but there are times when, having taken a (modest) chance on a new tool or product, the dividends can be staggeringly rewarding. With the safer odds that science and an unforgiving market

Not later

be almost gifted. I'm very glad I made some changes, and my only regrets – as usual

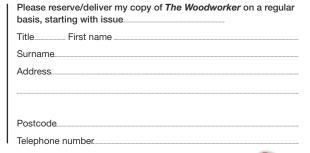
Mark

You can contact Mark on mark.cass@mytimemedia.com



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Woodwor

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In brief...

Joining the band

Machine Mart has just added a new bandsaw to its range. It's the Clarke CBS300, a high-quality floor-standing machine featuring a strong steel body with a solid cast iron ground table and balanced cast alloy wheels.

The saw is rated at 750W, runs at 800m/min and has a 305mm depth of cut. The table tilts to 45°, and the rip fence and magnified mitre guide ensure precision cutting, illuminated by a flexible LED work light.

The multi-step dust extraction outlet allows



direct connection to a workshop extractor, and there's a removable dust tray too. A built-in tool holder keeps spanners and hex keys to hand, and there's a storage hook for the push stick. The saw comes with a stand and a 4tpi 2240mm blade, and costs £419.98.

www.machinemart.co.uk

Bobbin along

The new Axminster Hobby Series oscillating spindle sander is a simple yet versatile machine that can be used for all manner of finishing tasks in the workshop. Bobbin sanders are very useful when it comes to creating curves and for finishing small parts.

The bobbin oscillates by 24mm, spreading the wear over more of the sanding sleeve. The cast iron table tilts up to 45° and has several nylon table inserts to give a close fit around the bobbin. The 370W **AXMINSTER** induction motor is quiet in use and runs slowly so it won't burn your work. The base is fabricated in sheet steel and has storage for spare bobbins and table inserts. Dust extraction is via a 50mm port on the rear and should

be connected to a suitable vacuum extractor. The sander comes with 19mm, 38mm, 50mm and 76mm bobbins and costs £299.96.

www.axminster.co.uk

Getting a grip

If you're just starting out on your woodworking journey or have come to the point when you need to throw out the old and bring in the new, then the timing of the introduction of the new Axminster trade cramps range could not be better.

The range includes all the standard types, including G-cramps, F-cramps, bar spreaders, sash cramps and T-bars. Most are made from forged steel or ductile iron, while the bars of the sash and F-cramps are made from cold drawn steel.

The quality of these cramps is of such a high standard that all are offered with a lifetime guarantee. Prices range from £1.96 for a 25mm G-cramp up to £54.96 for a parallel jaw cramp. Full details about the new range can be found in the 2015 Tools & Machinery catalogue or at www.axminster.co.uk

On the Record

Record Power's new SC3 geared scroll chuck and SC4 professional geared scroll chuck are direct replacements for the previous G3 and Supernova2

models, with some notable improvements. Integral to the performance of a chuck are its jaw slides. On both new chucks these have been made larger than others on the market, increasing their torque and load bearing abilities. The jaw slides

are controlled using a precision engineered geared scroll which moves in the conventional screw direction – clockwise to close the jaws and anti-clockwise to open them.

The SC3 chuck is available in three thread sizes: %in x 16tpi, 1in x 8tpi and M33 x 3.5mm. The SC4 chuck is available as an insert version, with a full range of inserts to fit, meaning it can be used on

virtually any kind of lathe. Unlike our previous professional chuck, the SC4 is now available with an M33 x 3.5 insert. The chuck body has been designed specifically to hold this large thread size insert.

Both chucks are being offered in the same packages as the

previous range, with the same selection of free jaws – the SC3 package costs £119.99 and the SC4 is priced at an incredible £149.99.

www.recordpower.co.uk





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In brief...

Pack up your troubles

If you're looking for a bag to provide secure storage for those items used on a daily basis, the Axminster Tradesman kit bag offers the complete solution. This robust holdall can hold a wide range of tools and accessories. The design is such that there is enough room for a power drill and its battery, together with a selection of additional tools and assorted hardware.

Provision has been made in the interior so that the contents can be organised in various pockets and there are also two large outside pockets. There is also a 12-piece tool roll, some elasticated straps and two



zipped pockets, one of which is a transparent wallet.

The bag is constructed around a rigid core, covered by a heavy duty, double stitched nylon outer with a pair of zipped covers. These covers give easy access to the interior, so that the bag's contents can be quickly and easily accessed.

The bag can be bought on its own for £59.96, or as a package with 103 accessory bits for £199.96. www.axminster.co.uk

The Leigh of the land

Leigh's new RTJ400 jig is designed specifically for router table use, offering fast accurate routing of through dovetails, box joints and half-blind dovetails on your router table.

The jig will make nine sizes of through dovetails, three sizes of half-blind dovetails and four sizes of box joints. A perfect joint fit is guaranteed and repeatable, thanks to the patented Leigh e10 guide bushing with elliptical barrel that can be rotated for joint fit. Board alignment is done using the adjustable side stop with an offset for rebated half-blind dovetails. The precision template and clamping frame

can be aligned perfectly with clearly marked pin locators that are etched into the template.

The jig is supplied with a DVD, five instruction strips that sit on the jig, blanking plates, stop rod, depth gauge, two 1/2 in shank dovetail bits (80-500 and 120-500), two straight bits (160 and 143-500), four cam speed clamps, a hex key and an adjustable side stop.

To see a demonstration of the new jig, contact any Axminster store (see the website for details). In addition, there is the opportunity for customers to have their routers set up for free when they purchase an RTJ400 iig. It costs £284.95.

www.axminster.co.uk

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Extractor takeover

Many woodworkers in the UK will be familiar with CamVac dust extraction machines. Until late 2014 the range of CamVac products were manufactured in Fakenham, Norfolk and sold throughout the UK. In October 2014 the CamVac brand and the full range of machines and accessories was acquired by Record Power and will continue to be manufactured in the UK at Record Power's Chesterfield engineering facilities.

In addition to providing woodworkers with high quality extraction products, CamVac extractors are used in a wide range of industrial and professional environments. Record Power are committed to



continuing to provide all existing CamVac users with the same high-quality products they've become familiar with over the years. All current machines and accessories will remain in production, and a five-year guarantee applies to all products made since October 2014.

For further information on the CamVac range, please call 01246 571 020 or visit your nearest CamVac stockist.

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What's new from



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BOSCH FLEXICLICK 5-IN-1 SYSTEM

MANUFACTURER: Bosch **D&M GUIDE PRICE:** See website

The new Bosch FlexiClick System is ready for any challenge, providing the optimum solution for every work application. The bit holder and drill chuck offer complete flexibility when coupled with a range of separately available accessories – the angle adapter, offset adapter and rotary hammer adapters. These can be locked in 16 different positions through 360° without having to remove them from the GSR18 V-EC FC2 cordless screwdriver. This is supplied as a body-only machine with the FlexiClick drill chuck and a storage case. The integrated lockable bit holder accepts all standard bits, and the driver offers exceptionally high torque due to a newly developed gearbox design and a new Bosch four-pole high-performance motor.





NEW METABO CROSSCUT SAWS FOR 2015

MANUFACTURER: Metabo D&M GUIDE PRICE: from £110 (KS216M)



As the market leader in crosscut saws in Europe, Metabo have made good even better and developed several innovative models. The result is a range of four new saws - the KS216M (with a 216mm blade), the KGS216M (also 216mm, costing £187), the KGS254M (254mm, £215) and the KGS305M (305mm, £420) that reach new standards when it comes to mobility, precision and performance. All models have brighter work lights with three-fold LEDs, a more precise laser display in the front position, and fast and precise setting of common angles using stop points. Lastly, the integrated shaving





FESTOOL INTRODUCE 5.2Ah BATTERY

MANUFACTURER: Festool **D&M GUIDE PRICE:** See website

Festool have upgraded their entire 18V cordless range with the launch of a new 18V 5.2Ah Li-ion high-performance battery, giving extra runtime and performance. In addition to the new battery, the whole cordless range is also now available as body-only units, complete with Systainer containers





BY DUNCAN ROSE

Two of a kind

My customer had an enormous book collection and wanted a pair of bookcases to stand in his modern farmhouse lounge. He already had some Shaker furniture, and asked me to make the new bookcases in this style. Here's how the project turned out...

> sh was the perfect choice to match the colour of the existing furniture. Absolutely no mdf was permitted, even as veneered panels. The height was fixed to fit below some wall lamps. This also meant that the top surface would be visible and needed to be attractive rather than simply supporting a top cornice. The customer wanted maximum book storage capacity, so the overall width was chosen to fully utilise the space between some French doors and a wall without looking crammed into position.

The top overhang was kept modest to maximise shelf storage. The solid panelled doors and sides are jointed using mortises and tenons. The narrower upper unit uses solid ash boards with a decorative chamfered top. The shelves are adjustable using brass bookcase strips.

The design is flexible and the dimensions are easily changed. I spent plenty of time designing the bookcase using CAD software on my computer. This effort in design prevents any surprises in the workshop.

Preparation

Buying and sticking the timber well ahead of construction gives it time to acclimatise. The design makes timber conversion easy, as many pieces have similar cross-sections and thicknesses. Discard any sections with knots, shakes or split ends. Bowed planks can be cut down for shorter components.

The base unit face frame

Start the construction with the front frame, which is jointed using mortises and tenons. The upper stile joints are haunched for strength and resistance to twisting. Bare shoulders on the other tenon edges improve the finished joint appearance.

Mark the mortise and tenon locations on all the parts, including the muntin. I cut the mortises with a machine mortiser fitted with a 10mm chisel, **photo 1**. They're all 45mm deep with the exception of the lower muntin mortise, which is 30mm deep.

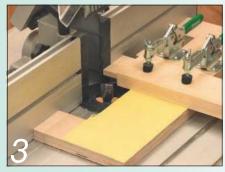
Cut the corresponding tenons. I like to rough out each tenon using the bandsaw, photo 2, before cleaning them up using a



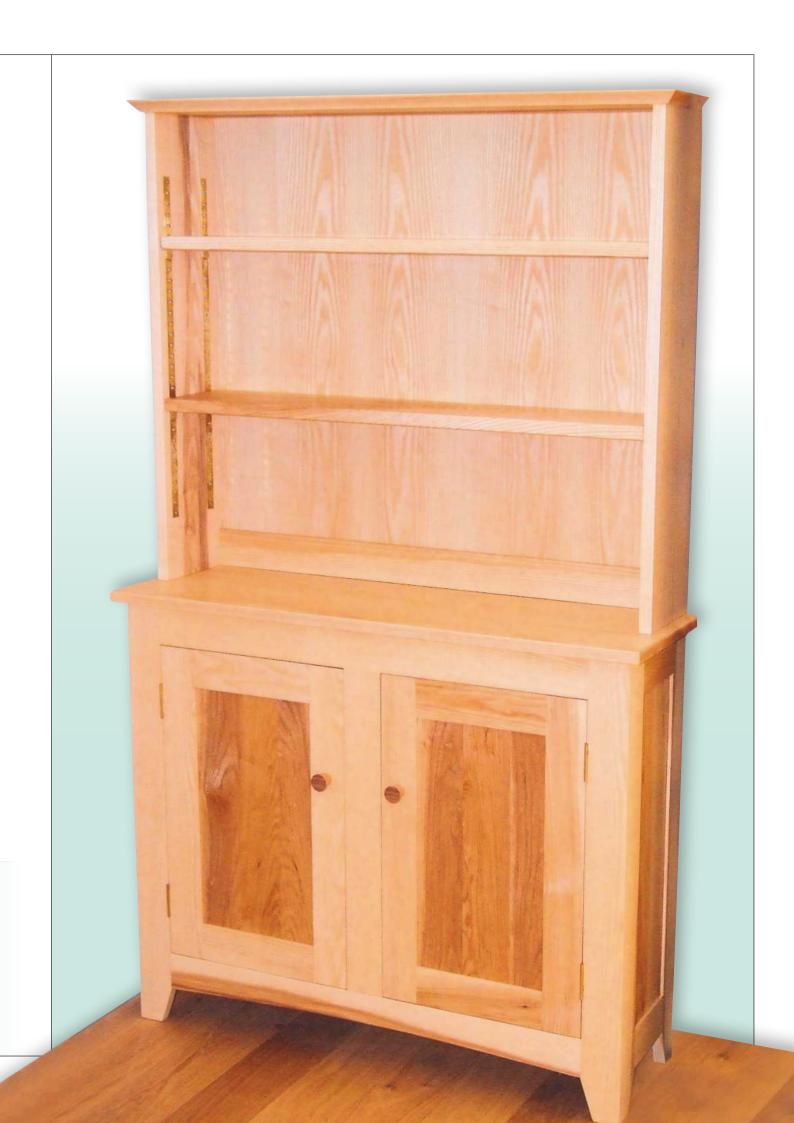
A mortise being cut into the front frame rail

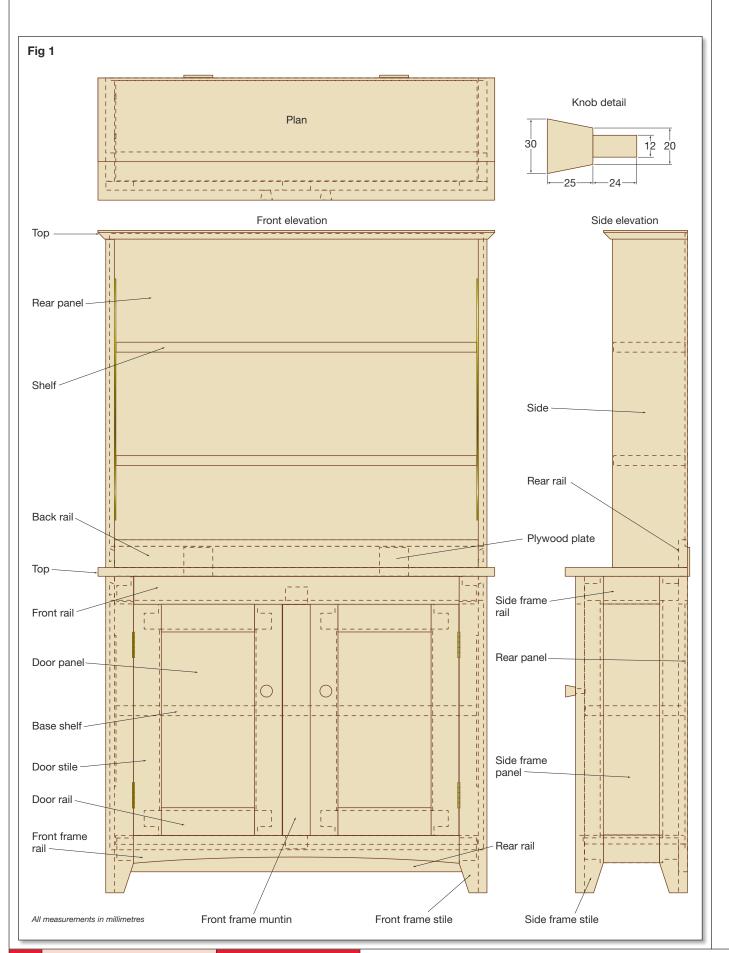


I rough-cut the tenons on the bandsaw...



...and cleaned them up with a crosscut router jig





cross-cut jig on the router table with a straight cutter, **photo 3**. This quickly produces tenon cheeks and shoulders that are clean, square, parallel and centred.

A little shaping

Next, cut the arch profile on the lower rail. I used the template and bearing follower method. First make a wooden template of the required arch profile. Using the template, mark the profile on the rail and rough-cut the rail to within a few millimetres of the mark. Securely pin the template to the rail and cut the finished profile using a bearing-guided straight cutter in the router table, **photo 4**.

Cut a 4mm deep groove along the inside face of the lower rail. Later this will locate and secure the base shelf to the front frame using a matching tongue. I cut the groove on the router table with an 11.1mm rebate cutter.

Also cut the leg chamfers on the frame stiles. I rough-cut these with the bandsaw and finished them with a hand plane.

Photo 5 shows all these components finished and ready for assembly.

Assemble the face frame dry and check the fit all round. Then glue and cramp the parts together, checking for squareness by measuring the diagonals, and leave it to dry, **photo 6**.

The base unit side frames

The side frames are joined using mortiseand-tenon joints, in the same way as the front frame. Mark out the joints as before and cut the mortises and tenons. Don't cut the tenon haunches until after the panel grooves are cut – see below.

Next, cut the grooves that will hold the side panels. Remember to stop the stile grooves at the lower mortise. I cut the grooves using a slot cutter in the router table, **photo 7**, to a depth of 8mm and as wide as the mortise. Now you can cut the tenon haunches to fit the grooves.

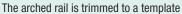
Perfect panels

I made the side panels from 32mm sawn ash, resawn on the bandsaw, **photo 8**. The split pieces were machined slightly thinner than the groove width required. I then planed, rub-jointed and cramped the panel, **photo 9**.

When this assembly is dry, sand the panels, removing any joint lines. If you're lucky the panels will fit through the thicknesser; a light pass cleans them very effectively. Dimension the length and width, allowing a few millimetres for movement. Finish the panels with Danish oil and wax.

SHAKER BOOKCASE CUTTI	NG LIST			
All dimensions are in millimetres All parts are solid ash unless stated				
Part	Qty	L	W	T
BASE UNIT				
Base shelf	1	912	257	22
Front frame muntin	1	660	70	22
Front frame rail	2	906	70	22
Front frame stile	2	798	70	22
Back panel (plywood)	1	942	629	6
Back rail	2	942	70	22
Shelf	1	908	251	25
Side frame rail	4	236	70	22
Side frame stile	4	798	70	22
Side frame panel	2	598	158	10
Тор	1	1000	308	22
Slotted glue block	4	50	30	22
Button block	10	40	22	22
DOORS				
Rail	4	321	70	22
Stile	4	583	70	22
Panel	2	457	243	10
You will also need: brass books 10mm dowels, 64mm broadsuite				rt lugs,
UPPER UNIT				
Shelf	2	909	180	25
Side	2	828	189	22
Тор	1	1000	211	22
Back rail	1	942	70	22
Back panel (plywood)	1	942	788	6
Connector plate (plywood)	2	73	73	6
You will also need: brass books	ase strip (4	x 608mm length	s), shelf suppo	rt lugs







Use sash clamps while the glue dries



The front frame components ready for assembly



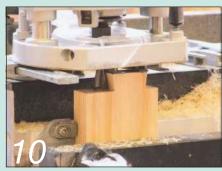
Cut grooves in the side frames for the panels



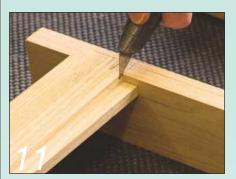
Bandsaw the side panels from thicker planks



Rub-joint the panel boards and cramp them



Clean up the rear rail dovetails with a router jig



Mark the extent of the rear panel rebate



The rear panel rebate on the stile is stopped



Cut a stepped housing for the bookcase strip



Cramp bookcase strip securely when cutting it



The two side frames are cramped and left to dry



Cutting mitre lock joints on the base unit frames

Rail joints

Next, make the base unit back rails with a half-blind dovetail at each end. Make sure the distance between the shoulders is 912mm. I cut the dovetails quickly and accurately by first roughing them out with the bandsaw and then making final clean cuts with the hand router and dovetail jig, photo 10. Cut a rebate along the back rails to accept the back panel. I used the router table to do this, making the rebates 7mm deep and 15mm wide.

Using the rail dovetails as templates, mark the sockets on the side frame stiles. I roughed out all the sockets using the mortising machine and tidied them up with a hand chisel.

Dry-fit the rear rails to the stiles and mark

the extent of the rail rebate on the stile, photo 11. Cut matching rebates for the rear panel in the stiles, stopping at the marks, photo 12. I cut the rebate using the router table, and hand-chiselled the stopped corner square. Lastly, cut leg chamfers on the side frame stiles.

Fitting bookcase strip

Cut housings in each stile to accommodate the brass bookcase strips. The housing needs to be stepped to house the strip flush, and also to provide clearance for the shelf lugs. I used a dedicated stepped cutter with a guided hand router, photo 13, and squared off the ends with a chisel.

Cut the bookcase strips to length, photo 14, and fit them in place. Mark the fixing

screw locations and bore pilot holes. Ensure a fixing hole is close to each end for maximum support.

The side frames are now ready for assembly. Glue the mortises and tenons and cramp everything together, photo 15, checking for square as before.

Assembling the carcass

I'd planned to join the front and side frames together using simple mitres. However, this was a golden opportunity to try my mitre lock cutter, photo 16. I had to be careful with accurate setting of the cutter height and fence position. Once set up, the joints are quickly cut and easily self-aligned as the carcass was assembled, **photo 17**. Also fit the pair of rear rails at this stage, photo 18.



Glue and cramp the front and side frames



Fit the dovetailed lower rear rail to the carcass



Cut a tongue on the shelf to fit the front groove



Cramp the shelf in place while the glue dries



Fix glue blocks under the shelf for support



Soften the top edges with a rounding-over cutter



Cut button slots in the tops of the side frames



Fit the buttons to hold the top to the carcass



The door components are ready for assembly

A screw through each dovetail holds the rails tight while the glue cures.

Shelf matters

Make the base shelf from several boards, rub-jointed and cramped. Arrange the boards with alternating end grain and matching growth direction. Dimension the shelf and cut a tongue to fit the front frame groove, **photo 19**. Secure the shelf by gluing the tongue and groove, **photo 20**, and cramp it in place.

To allow for timber movement, the rear of the shelf floats on a rail. Support it using screwed slotted glue blocks, with the slot direction running front to rear. Greaseproof paper stops any excess glue from sticking down the base, **photo 21**.

Topping time

Next, make the carcass top, again using rub-jointed boards. Leave a 22mm overlap at the front and sides. Soften the edges with a rounding-over cutter in the router table, **photo 22**. Secure the top to the carcass, allowing for movement. I used wooden buttons screwed into the top. These have a short tenon that slides inside a slot routed into the side frame, **photo 23**. I used pocket-hole screws as an aid to aligning the top when fitting it, **photo 24**.

Tackling the doors

Construct the doors using the same method as the sides. Joint the rails and stiles using haunched mortises and tenons. Groove the inner edges to accept the door panels.

Again, I made the solid panels from 32mm thick sawn ash, **photo 25**. Arrange the panel pieces to give the most pleasing appearance. The ash I used had a large colour variation, so I used slightly darker planks to form the solid panels. Finish the panels with Danish oil and wax before gluing-up.

The doors are hung using brass butt hinges. I cut the plate recesses in the carcass and door stiles using a home-made jig and my hand router fitted with a guide bush and straight cutter, **photo 26**. This quickly cuts accurate recesses. Hang and fit the doors, initially using a single screw in each hinge leaf until a good fit is achieved, **photo 27**. Plane a small bevel along the stiles to ease door closure.



I cut the hinge recesses with a router and jig



Initially fit the hinges with just a single screw



The turned knobs are secured by wedges (inset)



Rare-earth magnets fit in the stop block and door



The stop block and door catches are installed



Cutting housings for the bookcase strips



A machine mortiser roughs out the rail sockets



Form a stopped rebate for the rear panel



Chamfer the top along its front and side edges

Knobs and catches

The tapered knobs' dimensions closely match those on the customer's existing furniture. They were hand-turned for me by the chairman of a local woodturning group, photo 28. The turned dowel secures it to the door with a wedge in a saw kerf.

The door catches are made from pairs of rare-earth magnets, inserted into the stop block and door frame, photo 29. I cut the slots using the router and a small straight cutter. The magnets are pushed into the slot, filled over and then fitted, photo 30.

Making the upper unit

Prepare and dimension the side panels first. Cut a pair of bookcase strip housings in each side, photo 31. Square off the

rounded ends and cut matching lengths of bookcase strip. Insert the strips so you can mark and bore pilot holes for the screws.

Make the rear rail (identical to the base unit rails) with end dovetails and a back panel rebate. Again use the dovetails as templates to mark and cut corresponding sockets on the side panels. I roughed out the joints with the machine mortiser, photo 32, and finished them by hand.

Dry-fit the rear rail and mark the extent of the rear panel rebate on the sides. Rebate the sides, stopping at the marks, and chisel the ends square, photo 33.

Adding the top

Make the solid top panel and dimension it to include a 22mm overhang at the front

and sides. Chamfer the front and side edges, leaving a decorative 5mm horizontal and vertical edge. I used the table router with a large 45° chamfer cutter, photo 34. Avoid unsightly end-grain scorching by taking shallow cuts and using a moderate cutter speed as you work. Reduce the effects of end-grain breakout by first cutting the end chamfers.

Assembling the upper unit

The top is jointed to the sides using eight biscuits, and the plywood rear panel gives extra strength. Carefully mark the biscuit positions and cut the slots in both the top and sides. I cut the slots using a hand-held biscuit jointer, photo 35.

Dry-assemble the unit with its biscuits



Cut biscuit slots so you can join the top to the sides



Mark the top with the extent of the stopped rebate and cut it using the router



Square up the ends of the stopped rebate by hand



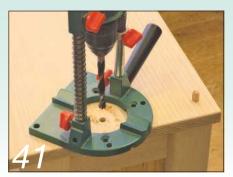
Sand the top and side panels before assembling them



Keep the unit square with corner web blocks while the glue dries



The upper unit's rear rail is held tight with a screw driven through the dovetail



Four 10mm dowels locate the top on the base unit. Make sure they're precisely vertical



Rear plywood plates lock the top and base together once they're in position



Finally, the two plywood back panels are screwed into their rebates

and mark the top at the extent of the side rebates, **photo 36**. Cut a stopped rebate in the top to fit the back panel, squaring the ends by hand, **photo 37**. This is a good time to sand the sides and top, **photo 38**.

Assemble the top to the sides using the biscuits and plenty of glue. While it was drying I used temporary corner web blocks to maintain squareness, **photo 39**. Fit the rear rail with glue and screws, **photo 40**.

Top to bottom

The upper unit locates on the base unit using four 10mm diameter dowels. Carefully mark the dowel positions and drill the holes, **photo 41**. I then fixed the two units together using a pair of screwed plywood plates at the rear, **photo 42**.

Now you can cut and fit the two back panels, **photo 43**. These were fitted into their rebates with screws, as I find the finishing process easier with the panels temporarily removed.

Shelf details

The last stage is to make the loose shelves for both the base and upper units. To check on the thickness, I needed to support a lot of books, I used an internet 'shelf sag calculator' (just type those words into Google and follow the links). The *Sagulator* indicated a 25mm shelf thickness for the likely load. I softened the appearance of the shelves by cutting a 3mm chamfer along the underside front edges.

Cut four shallow recesses in the

underside of each shelf so it positively locates on the support lugs. I used the hand router with a guide bush and simple template.

Finishing touches

Check the project over, removing any pencil marks and sharp edges. Remove any dust and debris; I used a wide brush and a compressed air blower. I then wiped on three coats of Danish oil. Rubbing the wet surfaces with wet-and-dry paper gives a great finish and reduces bleed-back. Once this was dry, I waxed the timber using a fine sanding pad.

Finally I re-hung the doors, inserted the base unit shelf and fitted the back panels and upper shelves. It was delivery time!







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The dovetail is perhaps the most admired of all woodworking joints. It is both functional and highly decorative. It's the strongest way to join two pieces of timber at right angles, with all the strength depending on the joint itself rather than on the glue

> he dovetail is a challenging joint to cut accurately by hand, and there are many mechanised ways of creating dovetails that are less demanding. However, as yet no machine can equal the look of a hand-cut dovetail executed by a skilled craftsman. There are many variants of the joint, but all rely on the interlocking pins and tails for their strength.

The through dovetail is the most straightforward joint of the dovetail family. It's used in almost all high-quality carcass construction and in making decorative boxes and drawers. It's fully visible from both faces of the corner, with one showing the endgrain blocks of the tails and the other the finer ends of the pins.

For maximum strength the joint must be correctly angled, and for appearance it must be carefully set out. To achieve a successful joint, the timber must be accurately prepared. Both parts should be identical in width with parallel sides. The ends must also be precisely square.



1 Use a marking gauge to mark the thickness of each member on the other. Allow a little extra on the length for cleaning up once the joint hgas been assembled



2 Mark out the joint on the tail member using a try square. Set a line about 6mm in from each edge; then divide the space between these two lines by the number of tails required – in this case three, so draw another two lines. Then draw lines 3mm away on either side of these lines to mark the edges of the tails



3 Set the slope of the dovetails to suit the type of timber – 1:8 for hardwoods and 1:6 for softwoods. Machine-cut dovetails tend to compromise and are cut at 1:7. Set your sliding bevel using some simple geometry as here, or buy a special dovetail marking template



4 Now mark the dovetails on both sides of the tail member, being careful to align the sloping marks with the lines on the end of the piece drawn in step 2



5 Use a dovetail saw (a fine-toothed tenon saw) to cut down the sides of the tails. Be careful to keep on the waste side of the lines. It helps to set the workpiece in the vice at an angle so you can hold the saw vertically



6 Use a coping saw with care to remove the waste between the tails. Leave a slight margin above the shoulder line and clean it up with a narrow bevel-edged chisel. Saw off the external corner waste with the dovetail saw



7 Mark the pins on the other component using the tails as the template. Hold it vertically in a vice and position the tail member accurately on top of it. Trace the shape of the tails onto the end of the pin member with a marking knife or scriber



8 Remove the pin member and use a try square to extend the marks down both its faces to the shoulder lines. Then saw down on the waste side of the lines using the dovetail saw. Stop at the shoulder line



9 Use the coping saw as before to remove the bulk of the waste from between the pins, cutting fractionally above the shoulder line





11 Dovetails should be a tight fit, and are fully assembled only once. Test the fit by partly assembling the joint using a hammer and a protective block. If any parts bind, knock the joint apart gently and use a chisel to trim them until they allow a tight sliding fit



12 Apply a small amount of glue and assemble the joint. Once the glue has set, clean up the outside of the joint with a sharp block plane, working in from the outer corner towards the centre to avoid breaking out the endgrain

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A soft touch

Modern hardware is too clever by half! This simple commission gave me the chance to try out Blum's Tip-on push-to-open drawer system, and I have to say it's wizard...

hen I was asked to make this mobile kitchen unit, it presented the ideal opportunity to try out a new one-touch drawer opening system as the client didn't want any visible knobs or handles.

The brief was to create a compact two-drawer unit to fit under a worktop and be easy to move out when necessary. It was to be as plain as possible, with painted mdf

sides and drawer fronts. The drawer boxes were to be beech, and the unit was to have a solid oak top for contrast and durability.

There wasn't much to design with this job, as the dimensions were completely dictated by the recess under the kitchen worktop where it was going to live. In order to create a seamless finish to all the edges, I decided to use a mitre-lock joint for the cabinet construction.



corner joint with no mdf core visible



The corners need to align perfectly; otherwise the back panel will not sit flush



It's vital to get the components perfectly aligned before tightening the cramps



When I need a narrow strip, I always rout the moulding on a wider board first...



... and then cut the machined board down to the width I require on the table saw



The face frame is fitted to three edges at the front of the carcass



After fitting the back, I glued a piece of 18mm thick mdf into the base of the carcass



The mounting holes on the castor base plates needed to be enlarged



I used insert nuts and matching M6 bolts to mount the castors securely



If you don't have a spray room, you can use a small foam roller to apply the paint

Starting the construction

I started by cutting the cabinet parts to size from 18mm thick mdf. I then machined a mitre-lock joint to all the edges with the exception of the top's front edge. Using a mitre lock joint in this way meant that there was absolutely no room for error when cutting the panels to size; even if they were just a couple of millimetres out, they wouldn't slot together without leaving unsightly gaps at the edges.

The orientation of the joint takes a bit of working out, photo 1, as the back needs to be able to slide into the joints made by the top, bottom and sides. This is easy to get wrong, and it's worth marking out the various boards with the tongue orientation before they're machined.

Building the carcass

The next job was to glue together the top, bottom and sides, photo 2, being very careful to ensure that the mitre lock tongues lined up perfectly at the corners, photo 3.

For the face frame I machined up three wider boards, photo 4, and ripped them to a final width of 36mm on the table saw, photo 5. I then mitred the corners and glued the three sections to the front edge of the cabinet, photo 6.

The back was fitted next, and this is where any mistakes in cutting the components to size would be most evident. Fortunately it went together well, photo 7, and while it was all cramped up I glued a panel of 18mm mdf into the bottom of the carcass so it was flush with the face frame. This would add a bit of mass to help with stability and stiffen the bottom of the cabinet.

Once this had dried I glued 18mm mdf panels to the inside faces of the two sides. They extended to about two-thirds of the height of the cabinet, again fitted flush with the face frame, to provide the fixing ground for the drawer runners.

Fixtures and fittings

I needed to fit heavy-duty castors to the unit, but they had to be small and attractive; after a search on the internet I found what I needed from www.manddonline.co.uk. They were designed to be screwed in place, but I wanted to use insert nuts and M6 screws, so I enlarged the mounting plate screw holes, photo 8, before temporarily fitting the castors to the base of the cabinet with the M6 screws, photo 9

The final job for the cabinet itself was to trim the drawer fronts to size and sand everything to a fine finish before moving the cabinet and the drawer fronts to my spray-room. I gave them one coat of mdf primer, two coats of undercoat, and three coats of Farrow & Ball Estate Eggshell to complete the finish, **photo 10**.

The top was machined from one solid piece of oak. After sanding it, I applied several coats of Osmo Top Oil to all the surfaces, **photo 11**.

Making up the drawers

After machining up the beech for the drawer sides to 15mm thick and cutting the various parts to size, I set up my Leigh jig to cut the dovetails, **photo 12**. This jig quickly makes a neat strong joint with perfectly spaced and positioned pins and tails, **photo 13**, even if I do need to get the instructions out every time I use it! I assembled both drawers after cutting slots for their birch ply bases, inserted the base panels and checked that they were completely square while the glue set.

The right runners

I normally use Blum's Tandembox drawer runners for all my cabinets. These fit under the drawer and are more or less invisible in use. There are various options.

- Single extension or full extension With full extension runners, the drawer projects completely out of the cabinet, allowing full access to the contents. With single extension runners, the drawer acts more like a traditional drawer and the rear part remains inside the cabinet when it's opened.
- Standard duty or heavy duty Standard runners will take a 30kg load, while heavy duty ones can carry 50kg. It's worth bearing in mind that the weight of the drawer itself may take up quite a bit of this loading.
- Tandem Plus or Tandem Plus Blumotion
 The latter is Blum's soft-close mechanism.
 Once it was fitted only to luxury kitchens,
 but has now become standard across all
 but the cheapest ranges of kitchen units.
 However, the Tip-on push-to-open system
 works only with Tandem Plus runners; it
 won't work with a soft-close drawer.

All the various options come as two components – the runner itself and a locking mechanism which is attached to the front of the drawer. These usually need to be bought separately.



The oak top was treated all over with several coats of Osmo Top Oil



The finished drawer box; I don't think any other joint works as well for drawers as a dovetail



The Tandem runners' locking mechanism is screwed to the front edge of the drawer



The main mechanism simply clips onto the body of the runner



These small rubber washers fit over the flat pin at the back of the runner



My Leigh jig is invaluable for repeat cutting of perfectly spaced dovetails



This Blum jig allows accurate drilling of the various mounting holes for the drawer runners



I used a pair of non-Blumotion runners, the Tip-on system and a pair of connecting rods



This clip allows for fine in-out adjustment of the drawer once it's fitted



The connecting rod has spring-loaded geared ends which fit into the Tip-on mechanism



With the Tip-on mechanism fitted, the drawer



Using a square board as a template ensured the runner would be level with the cabinet base



I used thin spacers to centralise the drawer front before I screwed it to the drawer box

There are a couple of jigs available to aid fitting these runners, and I think Blum specify their use in order to comply with the terms of their warranty. I have one, photo 14, and it does speed up the fitting process. However, I don't think they're absolutely vital to get the runners to fit.

Housing the runners

The runners fit inside the rebate created when fitting the drawer bottom, and to facilitate this, the drawer bottom should be set 13mm in from the bottom edge. The back of the drawer box always needs to be notched to house the runner, but it depends on the drawer design whether or not the front also needs to be notched. For these drawers, with separate drawer fronts, I had to notch the front edge of the drawer box to house the locking mechanism, photo 15.

Fitting the components

The Tip-on system comes as two separate parts, photo 16. The main component, part no T55.1150S, consists of a pair of



I drilled mounting holes for the worktop before fitting the runners



On wider drawers the Tip-on mechanisms are connected via this geared rod



There is some adjustment on the runners to aid precise drawer alignment

mechanisms, clips, rubber buffers and ends for the connecting rod; this costs £7.19. You need a connecting rod for drawers over 600mm wide. This is sold separately as part no T55.889W, costs a further £2.03 and is available from www.manddonline.co.uk. It's not obvious on their website that you need this rod for wide drawers; in fact the rod is difficult to find unless you know the part number.

The main mechanism simply clips to the runner body, **photo 17**. The front depth adjustment device clips to the runner, photo 18, and the small rubber washer slides over the pin at the back of the runner, photo 19.

If the drawer is over 600mm wide, the connecting rod is cut 277mm shorter than the internal width of the cabinet and the two spring-loaded geared parts are pushed into the ends, photo 20. One other difference between fitting standard runners and the Tip-on system is that the back of the drawer box needs another notch to clear the Tip-on mechanism. photo 21.

Before fitting the drawer runners to the cabinet, I drilled a series of holes through the top panel so I could attach the decorative oak top later, photo 22. I didn't want to risk getting the resultant dust in the runner mechanism by doing this later.

A helping hand

To fix the runners accurately for the top drawer, I cut a scrap piece of mdf into a template on which I could rest the runner while I screwed it in place, photo 23. The bottom runners were set flush with the bottom of the cabinet and were set back from the front edge by 4mm plus the thickness of the drawer front panel. Once the runners were fixed in place, I was able to fit the connecting rod between them, photo 24.

With the runners in place and the locking mechanism screwed to the front edge of the drawer box, the bottom drawer could then be fitted into the cabinet. To fix its front panel, I set spacers around the edge to make sure it was equidistant from the cabinet before screwing it to the drawer box, photo 25.

The top drawer is fitted in the same way. Then the drawer position can be fine-tuned by means of the various adjustments built into the runners, photo 26. All that remained was to screw the oak top into place from within the cabinet.

Summing up

This was the first time I'd used the Tip-on system, and I was very happy with the positive opening and closing of the drawers. The only slight problem I had was opening the top drawer. I had set the edge of the top panel 4mm back from the drawer-closed position, but my customer found that it was occasionally reluctant to open.

I took the cabinet back to the workshop and rebated a further couple of millimetres from the front edge of the cabinet top (the painted mdf part, not the oak worktop) and this cured the problem. According to the drawer specification it needs from 2.5 to 5.5mm of travel to open the drawer, so it should have opened easily with a 4mm gap. This would not be such a problem with lay-on drawer fronts as there's an adjuster on the drawer runner. However, with a faceframe design the drawers have to sit flush with the frame and so can't be adjusted in the same way. This is something I'll be aware of when I use these runners again.

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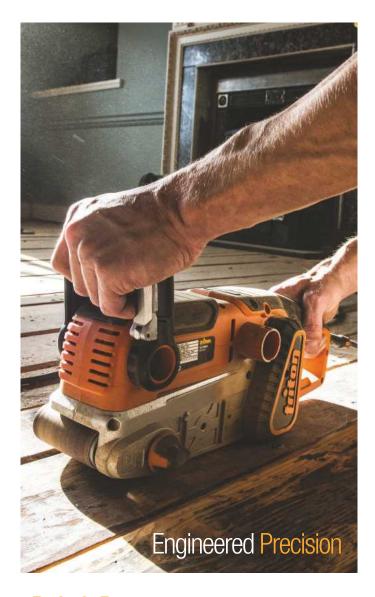




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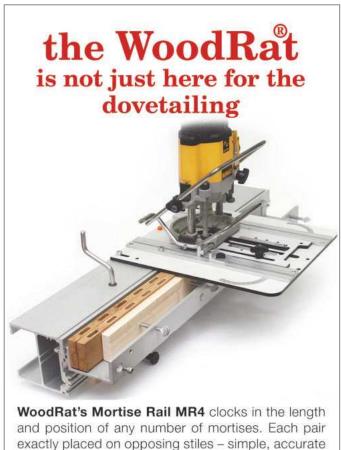
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BY GORDON WARR

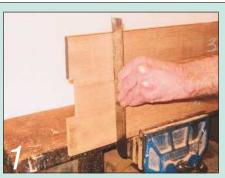
All tooled up!

I first made a tool chest similar to this design years ago, when you could still do your own car maintenance. It sat on a shelf in my garage, and always went with me on holiday in case of a breakdown. One of my sons recently asked if I could make him one for his DIY tools, so here's tool chest number two

> he chest is designed with three drawers for small tools and oddments, a lower compartment for larger items, and an inner flap providing space for spanners, screwdrivers, pliers, and even a hacksaw to be accommodated in dedicated slots. The hinge arrangement is also unusual, in that it allows for the chest to be opened while it's standing upright.

Preparing the parts

I had a supply of suitable hardwood available for this project, but first it required some sawing and planing to size and crosssection. Then these pieces needed to be edge-jointed to gain the width required for the four main parts. The butt joints were strengthened with biscuits, glued and cramped, then left to dry.



Edge-joint the trued-up boards to make up the panel widths required



...and remove most of the waste from between the pins using a coping saw



I use a home-made template to mark out all the dovetail pins



Cut down the sides of the pins with a fine-toothed saw...





The dovetail thing

made with extra width.

The first stage of marking for the dovetails is to gauge the extent of these from the ends, using a cutting gauge. For all variations of corner dovetails, I always cut the pins before the tails. This is the preferred way of working, but I know others cut the tails first. The slope for the joint can be between 1:6 and 1:8, but not outside these limits. I always use a pencil to mark out the tails from the sockets, rather than a knife; this is the way I was trained, and it has proved to be successful for me. I use a 2H pencil for this, sharpened to a fine point.

maximise the locking effect of the joint.

What also has to be allowed for is the

cutting off of the lid, and therefore the

dovetail at the cut-off position has to be

The chest takes shape

The inner surfaces of the four pieces were sanded. Then the chest was glued up and checked for being square. Only a thin shaving was required to level off the edges runners were then prepared.

I used three screws in each, but note how the centre one is positioned. It is nearer to the front, because as a drawer is opened, the weight of the drawer is greater towards the front. When I added these runners to the inside, I used a spacing block of scrap mdf. I first cut this to suit the position of the lowest drawer, and after securing these two I then reduced the size of the mdf to suit the middle drawer, and finally cut the spacing piece for the upper drawer. Care is needed



Mark the sockets on the chest sides directly from the dovetail pins

with the positioning of the front ends of the drawer runners, as these effectively act as the stops for the drawers.

A game of two halves

Next, the ply front and back of the chest were cut slightly oversize, and glued and pinned in place. Once the glue had dried, all the outer surfaces could be well sanded to bring the joints, and the edges of the ply, flush and smooth.

I decided I would separate the lid from the chest by using a fine straight cutter with the router mounted in its table. When this technique is employed, cutting should stop short of all the four corners, to ensure that the edges being cut are kept apart. If this is not done, then the lid will tend to close in, with the cutter continuing to cut the edges and thus spoil them.

With the cutting completed in this way, the uncut corners are simply severed by hand sawing, and the saw marks are trimmed by light planing.



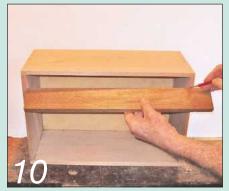
Chisel tiny chamfers on the edges of the pins to ease assembly



Apply glue spareingly to all the dovetails and assemble the chest carcass



Add the front and back panels, then sever the box and lid on the router table



Mark the lengths of the drawer fronts directly from the chest



Cut the drawer components to length and cut the dovetails



Bore two holes in each of the drawer fronts to act as finger pulls



Cut trenches for the drawer dividers with a simple router jig



Screw the drawer runners in place using mdf scrap as spacers



Check the fit of the drawers in the chest, and ease them if necessary



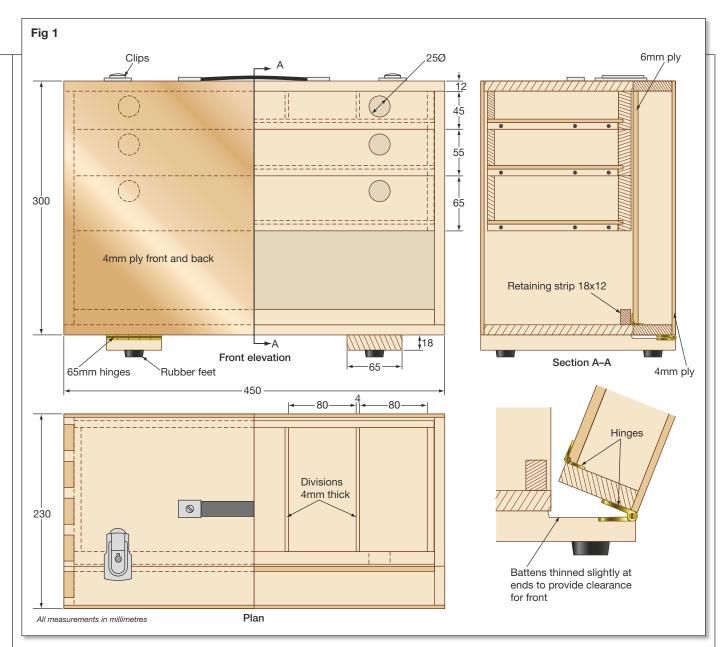
Hinge the two base battens to the front part of the chest



Then attach the base battens to the underside of the chest



A pop riveter fires and fixes small rivets and washers



Making drawers

The construction of the drawers follows normal practice, with lap dovetails at the front and through dovetails at the rear. However, there is a variation with the ply bases; these are grooved into the fronts, but are secured directly to the lower edges of the sides and backs. While this is not strictly speaking an ideal method of completing the drawers as they then run on the plywood, my original chest had the drawers constructed in this way and they still shows no signs of wear on the undersides. Before gluing up the drawers, a couple of holes were bored into their fronts to act as finger pulls.

Three divisions

I introduced a couple of divisions into the top drawer, one into the middle drawer, but none in the lower one. The divisions are held in routed trenches, and are fitted as the drawers are glued up. The ply bases are glued and pinned in place, then the drawers fitted into the chest when the glue has set. Remember to form a couple of cutouts on the top edge of the upper drawer; these are to allow for the fixings of the handle and must be positioned accordingly.

All dimensions are in millir	metres			
Part	Qty	L	W	т
Chest top and base	2	450	226*	12
Chest side	2	300	226*	12
Chest front and back	2	450	330	4 (ply)
Base batten	2	230	65	18
Top drawer front	1	424	45	15
Top drawer back	1	424	30	8
Top drawer side	2	190	30	8
Middle drawer front	1	424	55	15
Middle drawer back	1	424	40	8
Middle drawer side	2	190	40	8
Bottom drawer front	1	424	65	15
Bottom drawer back	1	424	40	8
Bottom drawer side	2	190	40	8
Drawer base panel	3	424	180	4 (ply)
Inner flap	1	424	274	6 (ply)
Retaining strip	1	424	18	12

^{* 4}mm has been added to the widths to allow for cutting off the lid. You will also need: hardwood offcuts for drawer dividers, 65mm and 40mm brass butt hinges, a handle, box clips, a flap catch and four rubber feet



I used the riveter to attach the hinges to the thin inner flap



Use woodscrews to fix the inner flap to the lid of the chest



The inside of the chest was lacquered and the outside primed and painted



Bore two holes for the handle bolts and attach the handle



Screw the two box clips and their catches to the front of the chest



Attach the four rubber feet to the two base battens: job done!

Non-standard hinging

The hinging of the front of the chest is non-standard, and requires two battens being added to the underside. However, the upper surface of these battens must be thinned by about 1-1.5 mm, extending to

about 55 mm, or the front will not operate satisfactorily.

I carried out this thinning by passing the battens over my surface planer, but only to the extent required. Before securing these battens, they were recessed for the pressed steel hinges. Note that the recessing for the

> hinges is entirely in the battens, and none in the lid. This allows for the maximum length of screw to be used for securing the hinges.

The front of the chest first had the hinges screwed in place. Then the battens were added, and this sub-assembly was screwed to the underside of the chest.

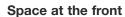
hinged at its lower end, and because of the thickness of this part, I used pop rivets to secure the leaves to it. The other leaf of each hinge was simply secured with ordinary screws. A couple of holes had already been bored near the upper edge of this flap to act as finger pulls (there are two holes because a clip had to be fitted in the centre to hold the flap closed).

Finishing time

The tool chest was now complete, apart from fitting out the space behind the flap. This final stage will be carried out once my son has decided on which tools this part of the chest will hold. In the meantime, I decided to proceed with the finishing.

The inside was given three coats of pre-catalysed lacquer, while the outside was painted. A couple of coats of primer were followed by two of matt black paint. All that was then required was to add the handle, the clips and the rubber feet.

Note that the handle is attached to the top of the chest with a short bolt, nut and washer. This fixing will project by a short distance inside the chest, so you will need to make two small cut-outs in the top edge of the back of the top drawer to clear them.



A feature of this tool chest is the space created within the front. This is so that tools such as spanners, screwdrivers, a pair of pliers and even a small hacksaw can

be held in an organised way in dedicated slots and racks. To maximise this space, an inner flap of 6mm ply is introduced. This of course has to be



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ne evening last autumn I was crouching in a roadside ditch in the pouring rain, boots flooded, hands lacerated by brambles - all in the name of woodwork. Tree loppers from the local highways department had been this way recently, and I'd spotted the end of a promising piece of maple they had left behind. With one last shove I propelled it towards the verge. Success! Overwhelmed by joy I forgot the discomfort, clambered out of the ditch and hoisted the log onto my shoulder for the long march home.

Back to the trees

If this seems a strange way of acquiring timber, let me explain. I used to roll my eyes at the story of the city kid who didn't know supermarket milk came from cows, but then I realised I was just as ignorant about the wood I bought from the DIY store in town.



BY ROBIN GATES



Nature's bounty

Wood is expensive, especially if you always buy it from a DIY store. But what if you could help yourself to what you wanted and take it home without paying for it? Robin Gates enthuses over working with windfall wood



This scavenged hazel clothes prop at work in the garden couldn't look more natural

This anonymous softwood, planed all round and wrapped in plastic, seemed as far removed from the living tree as a frozen fish finger from a swimming cod.

That was until I got this rift-sawn, inadequately kiln-dried stuff home and it sprang from the bundle like the twisted husks of a beech nut. So it was a combination of ignorance and disappointment with 'town' timber that sent me looking for wood in the countryside. It wasn't that I wouldn't be using prepared timber ever again; I just felt the urge to go back to the tree and explore timber's origins.

My new habit began when I discovered a grubbed-out hedgerow being replaced with barbed wire and managed to extract a pole of hazel from the wreckage, walking it home Gandalf-style and then cutting a notch in

one end to make a clothes prop, photo 1. Seeing that prop in the garden with the washing billowing cheerfully around it inspired me to look for more wood from the wild and to make more things.

Wood with history

Within a few weeks I'd accumulated a range of local woods - ash, elm, oak, hawthorn, holly, maple, wild cherry, alder - and each piece was an individual, reminding me of a particular walk, a country road, a particular tree, with a history all its own. An advantage of collecting wood in this way is that there is often a leafy twig attached or fruits nearby to help identify the species. In any case a log shouldered home over a couple of miles, heavy with the wet weight of the growing



Working with quirky offcuts means that I'm making spoons rather than dining tables



I start by using a wedge to split an elm log in half... and perhaps into quarters



I use the axe 'choked', with my hand tucked behind the blade and a short chopping action



My Bismarck scrub plane is perfect for thicknessing found timber down to size



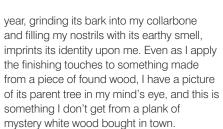
My crosscut saw naturally gets a lot of work here sawing a holly log



This hook knife blade for hollowing spoons was made from an old saw plate



A bowl adze made from a wrecking bar is ideal for hollowing a small cherry log



This chancy approach to woodwork does have its limitations. Working with quirky offcuts carried home on foot means that I'm making spoons rather than dining



Oddly-shaped work such as this sycamore dish calls for improvised cramping solutions

tables, photo 2, but this is weighed against the satisfaction of a more intimate relationship with the material and knowing that it's locally grown, with its only carbon footprint being the burning of my own fat to power my walking boots.

Blow, thou winter wind...

Invariably my timber searching is confined to public rights of way. If high winds are forecast then I'll be rubbing my hands in glee at the prospect of branches or even whole trees being blown across footpaths and cycle tracks. Where these windfalls are sawn up on the spot there are usually some oddments left behind for me to pick over. Other good places to glean from are along the routes of power lines where trees are routinely cut back to prevent damage, and on roadside verges where the bus company's loppers are kept busy pruning overhanging branches to safeguard their double-deckers.

As an amateur naturalist I know that abandoned wood left to rot where it falls forms an important link in the ecosystem, providing food and shelter to a wealth of species that also recycle the elements locked inside it during growth. However, along with the fungi, wasps and beetles I regard myself as just another scavenger making use of what's left to rot. It would be a hard-nosed woodlouse that would begrudge me the small pieces I carry home! Ah, but what if we all took home a piece of wood from the countryside and made something from it? Where would we be then? Living in a better place, I think, where people have rediscovered the practical value of their trees, harvesting home-grown timber and making useful things.

Tools and techniques

The tools I use for converting a small log into usable timber take me back to the roots of the craft. I start by splitting the log lengthways using iron wedges, photo 3, and then perhaps split it into quarters so the wood will dry more evenly and minimise radial splitting. With the axe I'll slice away the bark which may harbour insect pests, and also the sapwood and any pithy material from the centre. My most used tool of the last few years has been a Gransfors Bruks carpenter's axe, typically used 'choked' with my hand tucked behind the blade and a short chopping action, photo 4. It's enormously satisfying to begin with a piece of raw tree and, using just this one tool, to produce a four-square block of timber ready for making something - even if it's only a tent peg.

Who needs power tools?

Also invaluable is the scrub plane, my handpowered thicknesser. Mine is a wooden Bismarck design from across the North Sea, **photo 5**, with its Viking ancestry showing in the 'cow horn' handle. Used across the grain with its heavily cambered blade taking greedy bites, it can reduce an over-thick piece to the desired dimensions in minutes, spitting out shavings like potato crisps. It works well on an edge, too, rapidly reducing the width of a piece without recourse to the ripsaw.

Other essential tools are my crosscut saw, **photo 6**, a drawknife, a spokeshave or two, a traditional brace and bit, and some gouges. To complete my back-to-basics approach I've also made a few hand tools from scratch, including a hook knife cut from an old saw plate for hollowing spoons, **photo 7**, and a small bowl adze shaped from a wrecking bar, **photo 8**.

Getting a grip

Working with oddly-shaped wood often entails making oddly-shaped things which can be awkward to cramp, **photo 9**. If the piece is large enough I can hold it in one hand and wield the axe in the other, or grip it with my boots if using the adze, but when using smaller tools on smaller pieces I usually need mechanical help.

Paradoxically the face vice on my bench has proved handy because of its poor quality, in that its slack moving jaw racks so severely it auto-adjusts to surfaces out of parallel; wooden wedges and other scraps are then jammed into place as needed. I also use a big wooden handscrew whose jaws were designed to accommodate irregularly shaped work, and an ancient holdfast which locks down so solidly you can lift the bench with it.

Design and accident

Converting found wood into usable timber brings with it a need for flexible thinking with regard to what I'll make; it's a mixture of design and accident. More often than not, the timber itself will suggest what to make - or will at least pare down the list of possibilities - because, after cutting out soft areas of fungal attack, sawing off split ends and planing out the twist, what seemed to have had the makings of a bookshelf may have shrunk to the size of a spatula. But found wood also steels my determination. It's not as if it was wheeled to the check-out from a rack of fifty identical pieces; it will have been won from some unwieldy bough carried through the winter mud, and I'm not going to give up on it easily.



Gouges shape the interior of a dugout canoe-inspired dish in cherry wood



I bore small lengths of cherry to make pots, using the brace and a large centre bit



Smoothing the trunk of the Christmas tree with the drawknife was slow work

The wood talks

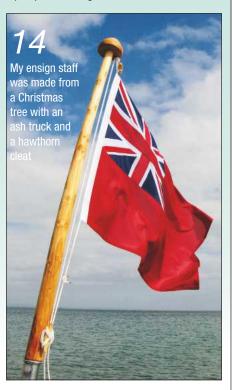
To give some examples of how things have taken shape, a pair of narrow flat-bottomed dishes with ends hollowed to make handles suggested themselves when a piece of sycamore about 350mm long split into more-or-less equal halves. Another time, driven by panic at my wife's approaching birthday, I was toying with a piece of cherry when the idea of a dugout canoe-inspired dish of chocolates popped into my head, **photo 10**. Cherry with its aroma reminiscent



I filled the finished cherry dish with chocolates to make an unusual birthday present



These cherry beer pots are finished with a liquid-proof coating of walnut oil and beeswax



of marzipan is a lovely wood to work and a natural complement to anything food-related, **photo 11**.

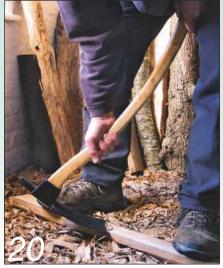
From carving small bowls and dishes, I moved on to making spoons which are, I think, more difficult to make because a spoon is essentially a bowl with the added complication of a handle. Achieving a seamless and proportional relationship between the two is not as easy as the professionals make it look. That said, carving spoons unlocks the potential of a lot



Carving the small hawthorn cleat for the ensign



Hewing an S-shaped ash log gradually yielded the approximate shape of an adze handle



The adze was soon restored to use with its new handle, here working on a piece of elm

of small oddly-shaped wood, and in one short branch you may find enough spoons to feed a family.

One for the pot

Another satisfying project using branch wood is a pot. I've made these in a variety of timbers simply by boring out the centre of a small cylinder, photo 12, stopping about 10mm short of the end so as to leave a base, and then enlarging the hole using gouges until the walls are reduced to about 5mm thick.

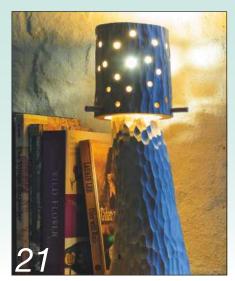
If the centre of a piece of green wood up to about 70mm diameter is hollowed out soon after collection, it dries without radial splitting and, given a good dousing of walnut oil in the end grain, it will even serve as a



I've also made larger cleats from elm, dishing the tops of the horns with the spokeshave



This work was followed by refining the handle shape gradually with my spokeshaves



I bored holes in the shade for this unusual table lamp, which was carved from an elm log

liquid-proof drinking vessel, photo 13. Sipping beer from a pot made from the branch of a local cherry tree has been one of the high points of my wild wood adventure!

Expect a surprise

The delight of being a scavenger is that you just don't know what you're going to find, and even if the usable timber amounts to only a drawer pull you increase your knowledge simply by exploring it. For example, the timber from a hawthorn log salvaged when a gnarled old tree was cut down by a footpath turned out to be as scarred as the tree itself, deeply fluted and with shakes between the annual rings... not to mention a forest of buried knots left by

long-lost branches. Yet, with its ruddy hue and malty brown streaks, this practically useless piece of hawthorn opened my eyes to a fine-grained timber I'd never known, one which rolled from the chisel's edge in tight curls to leave an almost glassy finish straight from the blade.

Flying the flag

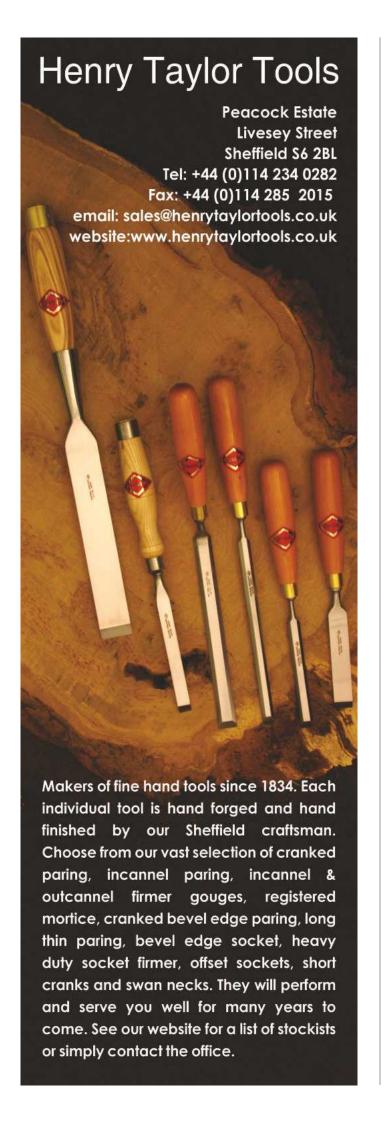
While it's fun simply to make shavings with found timber, it's especially gratifying to make something really useful. For years I'd been using the trunks of our Christmas trees as props around the garden. Then one January I hit on the idea of making an ensign staff, photo 14. Smoothing contrary grain around the knots left by the branches of a bushy tree was a long job for the drawknife, photo 15, not to mention a sticky one because green Norway spruce is laden with resin.

I carved the toadstool-shaped knob for the top of the staff (properly called a truck in nautical circles) from a piece of ash, and chiselled a round tenon at the heel to fit into the socket. However, the most satisfying part of the job was carving a tiny cleat for the halyard from a piece of hawthorn, photo 16 – a species I wouldn't have considered before finding that grizzled old log by the footpath. Later I repeated that pleasant experience by making larger cleats from a piece of elm, photo 17, dishing the tops of the horns with the spokeshave and hollowing beneath them with a rat-tail file.

Shaping handles

Besides fuel, perhaps the most traditional use for local timber is in making tool handles. A thrifty old-time carpenter would buy only the head of an axe or hammer from the village smithy and make the handle to his own preference using coppiced ash or hazel. My first attempt at this was for an adze, a tool with a shapely double-curved handle that fits into a tapered eye so that it can be slipped off again for storage. As a consequence of this, many a head and handle have gone their separate ways down the years!

It took some searching to find an ash log with the suggestion of a natural S-bend, a lengthy spell of hewing with the axe, photo 18, and much work with the spokeshave, photo 19, before the head would slide smoothly over the curves and come solidly to rest, but I got there eventually. Having returned this old tool to working condition, I began dubbing tentatively at a log wedged beneath my boots, photo 20, adding an entirely new sound to my workshop – and a little more experience to my understanding of wood. I even made an all-wood table lamp, photo 21, complete with a pierced wooden shade!













The lost cord

This project breaks new ground for me. I've always avoided re-caning or stringing chairs, but this pair took my interest for some reason. Fixing them up proved to be an interesting challenge

first saw these two old teak chairs in a clients' garage. They had apparently been given to them as a wedding present from the bride's mother some 40 years earlier, when they lived in India. The couple did try to tell me where they might have come from, but I'm afraid this went way over my head. However, the makers were proud enough of their work to stamp each chair frame with some initials and a maker's mark.

My main query was what they had originally been strung with. It appeared to be some sort of natural fibre material that I would have difficulty matching here in the UK, so I set off to establish what substitute might be suitable.

The right stuff

My research threw up a couple of likely choices. The first was sisal rope/string. This looked OK for the job, but was a bit fibrous

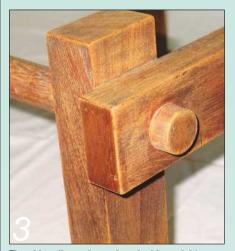
and quite light in colour. The second most likely contender was Danish cord, known as DanCord in the trade. This, I found out, was made from paper of all things. The fibres are spun together to form the cord which, unless it's soaked, is pretty strong. It wasn't quite the right colour but was near enough, and I thought it would contrast well with the teak frames.

I returned to my clients with some samples, and explained that DanCord had

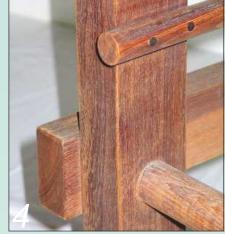
WOODWORK Reseating a chair



Tired, torn and bedraggled, the pair of chairs arrives at the workshop



The side rails are large dowels driven right through the corner joints...



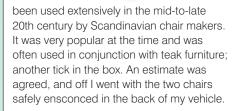
...while the slimmer back rails are glued and pegged onto the frame



After being sanded clean, each frame received a liberal coat of linseed oil



This rapidly restored the rich colour and grain pattern of the Indian teak



After stripping the strings off the first chair, the dirty but sound

wood was exposed

Stripped for action

Both chairs were filthy and bedraggled! I decided that I'd strip the broken strings off the worst one first, sort that out and keep the other as intact as possible so I could follow the pattern. Once the first chair had been stripped and vacuumed, I handsanded the teak frame to get rid of the dirt.

The original wood had been left au naturel, so I knew that if I applied some linseed oil to the cleaned wood, it would bring the original colour back - and it did.

> There are all sorts of oil concoctions on the market for restoring wood surfaces and they are, mainly, based on linseed oil! If you want to get a quick, less oily finish, mix the oil 50:50 with white spirit. This still gets the oil into the wood,

but the surface will dry off a lot quicker. Once the chair frame had been sorted, it was time for the stringing stage.

A plan of action

I looked at the second chair to see how the stringing worked. There appeared to be a set number of strands running from left to right on the back and from front to back on the seat. The original stringing had simply been tied off to start with, but I didn't like this. DanCord is about 4mm in diameter. At the start point, on the inside of the frame, I drilled a 4.5mm hole, rubbed some glue into the end of a piece of cord, popped this in the



I decided to cover the seat in a chevron pattern instead of the original diamond design



The cords were butted closely together on the front rail, but spaced out evenly down the side



A small hole, a spot of glue and a couple of staples secure the end of the cord



To maintain the tension I used a cramp when jointing in new lengths of cord



The string tension bent the slim back rails slightly, so I added a screw for insurance purposes



The finish end was tied off through an eyelet concealed within the weaving



The first stage involved weaving the warp strings across the back and seat frames

hole and stapled it down. There was no way this could be pulled out and it was much neater. For the other end I decided to use a screw eye. When I got to this I would then be able to tie off both sets of cord at one point. All these knots would be inside the weaving or underneath it and out of sight.

Making a start

Now I was ready to start laying on the cord and creating the pattern. The series of rows for the back and seat were strung round the frame first. The back was simple enough. With nothing in the way, the cord was simply wound round tightly and tied off at the end. The seat was more problematical. The cord needed to be threaded through so it was very unlikely that I could do this in one length. Having started it off I cut a good length of cord and worked with this. When I got to the end of the first piece I used a Solo cramp to hold it while I tied another length on, making sure the knot was underneath. About four lengths later I had the desired number of loops and tied it off.

Getting the needle

This was the easy bit. The next issue was how I was going to thread the diagonally



I tackled the pattern on the back first, working in towards the middle from each side



To weave the seat pattern, I started at the front and worked backwards, using my maple needle



The finished effect looked very professional, with the pale cord contrasting with the rich, dark teak

opposed cords through to create the pattern. I've got loads of upholstery equipment, including long needles, but nothing was quite suitable. I decided that I could make a couple of special needles (out of wood, of course) that would do the job.

A bit of hard maple seemed the best choice. I crafted a long one, for the seat, and a shorter one for the back. Shaped and sanded down they slid effortlessly through the warp, the first series of wound cord lengths through which the weft would go transversely to create the pattern.

From the top down

At the top of the back, at one end, I tied off the first length of cord to start the pattern. This is where I had to concentrate to make sure I had the same under-and-over sequences that would create the pattern I wanted.

I'd decided to change the pattern slightly from the original diamond arrangement into a chevron. For the back this meant working from both sides into the middle. The back side is not as complicated as the front, but still has to be tidy and balanced. By the time I got to the middle, all the strands of cord were really tight and firm. With the last weft in place I tied off the end.

The reverse side of the back didn't have such a complicated pattern. It needs to look neat and balanced but large sections of simple over- and under-lapping is fine.

Stringing the seat

The long purpose-made needle was perfect for weaving the seat pattern. I cracked on, working from the front to the back, and now with gloves on to save my hands! Once you get into the swing of it, the pattern starts to evolve. I checked every three or four rows to make sure I hadn't gone wrong. Where I did I had to take the cord out, back to the error, and start again from there. I also had to joint the cord at least five or six times. The knots were all underneath, of course.

Once more the opposite side to the pattern didn't need to be complicated but still had to look tidy. As I progressed the weave became self-tightening to create a really firm seat. At the back I stopped at an appropriate point and tied off the end. A little bit of jiggling around with the short needle straightened up the cord, and the first chair was finished.

Repeat after me

Number two chair was stripped of string, sanded and oiled ready for its new seat and back. I'd just about used up the first batch of DanCord I'd ordered, and had another roll on its way. Just in case there was a colour variation, I laid on only the warp rows on the back panel. If the next batch of cord varied slightly, it wouldn't now be noticeable. Perhaps I was being overcautious, but I thought it best to allow for this rather than to regret it later on. The second batch of cord arrived in a couple of days and I got stuck in.

Looking back

Once the job was complete, there was time to stop and reflect. I'd copied the way in which the cord had been strung. If you look at how DanCord is normally used, there are no gaps between the pairs of cords. Additional ones are wound round the rails so that the wood underneath doesn't show. If I'd been working from scratch I think I'd have done this. However, the client wanted the cord laid out in a similar way to the original, so that's what I did.

I'd been a bit worried about the tension of the warp. I'd wound it round the rails keeping it pretty tight, but thought it might be loose when the weft was woven through. As it turned out I needed to worry more about over-tensioning it! As the second cords were woven in, the simple act of making the warp cords deviate from a straight line made the weave tighten... so much that on the smaller dowel rails it bent them slightly; hence the screws fitted as a bit of insurance. The lesson I learnt was that the warp should be tight but not too tight.

All this was incidental really. The job had been done as requested, the chairs looked like new and the clients were over the moon. Most importantly, they paid my bill!



FURTHER INFORMATION

Danish paper cord

- Seat Weaving Supplies
- **1** 01202 895859
- www.seatweavingsupplies.co.uk







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was just beginning to branch out into the worlds of bandsawn boxes and of carving, and decided to have a go. This is essentially a bandsawn box with an animal motif overlaid on the lid in contrasting timbers. It also features an opening system that has to be figured out. The one I bought uses a band-sawn 'dovetail' slider and a similar key locked by a pivoting arm. It works well enough, but is very visible and actually intrudes into the animal motif. I wanted to try to change that, and in my variation, all the mounting and holding devices are hidden from the outside.

Getting ready

Having decided (or rather, my godson decided) that mine would be a cat, the first step was securing a pattern since I'm no artist. Woman with iMac searched the web and found me a few photos, and I chose one that I thought I could trace as a line drawing.

So much for the design: now let's think about kit. I used a 1/sin 20tpi blade in my bandsaw, and an oscillating bobbin sander.



BY MICHAEL FORSTER

The cat on the box

Craft fairs and woodworking shows are great sources of ideas - and the idea for this piece came a few years ago from the Timber Treasures stand at Westonbirt's Festival of the Tree

A drum sander in a drill press would do the job quite well and more cheaply.

Apart from that, a few basic carving tools will enable some attractive finishing touches, and a scrollsaw beats the bandsaw for the internal cuts on the motif itself. A drill press will make drilling the dowel holes at 90° much easier, but this

could be done at a pinch with a simple home-made jig and a hand-held drill.

Making a start

First, photocopy the drawing and put the original away somewhere safe. Now make up a 50mm thick block (I laminated mine from 25mm thick ash) for the box, and

thickness two contrasting pieces to 10mm for the carving. I used 6mm for my first box and, as you might see in photo 27 on page 60, that didn't really allow enough scope for adequate contouring. For the motif, I chose offcuts bin overflowing with the stuff!



Stick the block and the motif pieces together, then stick the paper pattern to the top layer



Bandsaw round the outline, keeping just a tad shy of the line



Sand back to the line. You'll need a small bobbin or drum for some of the nooks and crannies



Remove the thin motif pieces and cut off the tail - best at the scrollsaw or with a hand fretsaw



Draw carefully round the outline of the severed tail onto the blank



On the carcass, plot the positions of the two dowel holes at the widest points along the tail



Rip the bottom off the blank on the bandsaw and set it aside



At the drill press, drill two 3mm holes through the main blank to ensure accurate positioning



Now separate the lid on the bandsaw in the same way as you cut off the bottom



Sketch out the approximate shape of the internal compartment

The first cuts

Use double-sided tape to laminate the three pieces; then stick the paper pattern down to the top with aerosol adhesive. Bandsaw the outline slightly shy of the line, and then sand back to it. I was a tad liberal in my following of the pattern, to ensure I had no awkward nooks and crannies. My smallest sanding bobbin is 6mm, and it's not difficult to ensure that all the internal corners on the blank can be smoothed with that. Once the outline has been sawn and sanded, the motif layers can be removed from the blank, leaving them still stuck to each other.

To ensure that the tail can function as a catch securing the lid, it's quite important to carry out the next operations in the right sequence. The holes in the box and the tail need to be perfectly aligned and at 90°, or the thing will sit oddly when in place, giving the game away.

It's important from now on to distinguish between the lid panel (which is cut from the main block) and the motifs - the pieces stuck on with double-sided tape.

Tackling the tail

Having separated the bottom (but not the lid) from the blank, cut the tail from the motif pieces, and use that to mark its outline on the top of the box blank. This will make positioning the dowels at the widest points of the tail easier. Drill two 3mm holes on the drill press, and then slice off the top of the box block to form the lid, which will then serve as a jig for positioning the stopped dowel holes in the underside of the tail motif.

With those provisions in place, we can crack on, cutting out the cavity of the box. This necessitates a discreetly positioned entry kerf on the outside, which can be filled with a sliver from scrap, left proud for sanding flush. Don't throw away the 'waste' at this stage; it's not done with, yet.

The locking slide

The 'waste' from the cavity gives the shape for the locking slide. Sketch onto it the outline of the side grips and the boss that has to slide between them, and then rip two 4mm slices from the block. Cut out the middle section, using the top one for the side grips and boss and the lower slice for the button that secures the lid.

Next, sand the inside of the cavity, checking to see that the contours haven't changed where the side grips will be. These can now be glued back in place in the positions from which they were cut.

This is a good time to draw round the

cavity outline onto card, to be the backing onto which the felt bottom lining will be glued. An alternative to this is to use flock for the lining, but I never feel it looks as good.

The lid mechanism

Place the lid panel on top of the box and invert it on the bench. You can now work from underneath to position the boss and the button between the side grips and find the best position. Remove the button and mark round the boss with pencil. The sides of the button can be chamfered off slightly to allow them to slide comfortably under the side grips.

Ensure that the lid and carcass are perfectly aligned and set the button in position, securing it to the boss with a dab of glue. This will not be the strongest of glued joints, so when it's dry I drilled a hole and inserted a slim dowel as insurance. This can go right through the top panel, to be covered later by the cat motif.

The lid should now slide up into position and stop in alignment with the ends. Once you're happy with that, glue the box bottom on, cramp it firmly and leave it to go off.

Back to the tail

Now you can turn your attention to the tail you severed earlier, which will become the lock for the lid. You need two 3mm dowel holes, perfectly vertical and perfectly aligned with the holes in the box and lid.

If they're still layered together, separate the two tail pieces and choose which one to use; what colour tail would the cat like to have? Tape it in position on the lid panel, which now becomes a jig, and set the drill press to stop 4mm above the table so that the dowels aren't visible from above the box. The second tail piece can be used to support the workpiece as you turn it upside down on the drill table and drill through the holes in the lid panel into the tail.

With that done, enlarge the holes in the box and lid (NOT in the tail itself) to 3.5mm for a good 'drop-in' fit. The dowels can be easily shop-made by simply whittling a piece of hardwood until it's slightly oversize and roughly eight-sided and then tapping it through a hole in a piece of steel. I've got a Lie Nielsen dowel plate which is excellent, but for a one-off job it wouldn't be worth the expense – just drill a 3mm hole in an old steel hinge or something similar.

Glue the dowels, about 20mm long, into the holes in the tail. Once you've wiped off the excess glue you can briefly locate the tail on the box to check that they are perpendicular. Now, leave this to one side for the glue to go off.



Feed the blade into the timber in the internal corner near a foot, and cut away the 'waste'



Rip off two 4mm thick pieces from the top of the 'waste'



Left: the side pieces and boss. Right: the slider that will hold the lid in place



Bobbin-sand the cavity. Be careful to maintain the contour where the side-grips will fit

19
Invert the box onto the lid to find the position for the boss and slider. Glue them in place





The 'waste will provide the locking device. Mark on the top the outline of the side grips and the boss



Tape the two pieces together and cut out the middle section



Carefully bandsaw out the pieces. A light touch on the sander will smooth the show edges



Glue the side-grips back in the position from which they came



When the glue has dried, remove the lid and secure the pieces permanently with dowels

Trace round the inside onto a piece of card for the box lining





Glue the box bottom back into place and cramp it securely



Tape the tail onto the box lid and use the lid as a jig to drill stopped holes for the dowels



Cut up the cat motifs on the scrollsaw. Then separate the layers and sort out the pieces



For carving, the pieces can be glued down as a 'paper sandwich' to enable easy separation



The paper residue is removed using abrasive paper laid on a flat machine table



My first attempt (left) lacked depth because the motif was too thin. My second (right) was better



To solve the puzzle, simply lift out the tail...



...so you can slide the lid down the box...



...and remove it. All is now revealed!

Decoration time

Once that's done, the lid panel should slide into place and be secured by the tail. It's time to decorate the lid with the cat motif.

With the two pieces still held together with the double-sided tape, cut out the body parts at the scrollsaw and then separate the layers, intermixing them to give one set with a pleasing colour combination. I chose to use odd-coloured ears for my first cat because with matching ones I thought it just looked too symmetrical.

The carving work is quite straightforward. I began with the front legs and the flanks. Carve in such a way that the feet are well forward of the torso, and thin the flanks so that they're set back from the front legs. The filler between the legs was simply thinned down with no particular shaping. The brow and nose piece was cut with a gouge, first hollowing the nose profile and then rounding off to the edges. The other pieces were simply rounded off to mate with the adjacent parts.

Practice makes perfect

I haven't given a lot of technical detail about the carving; this is my first carved piece, and I simply worked it out as I went along. What I did do, though, was to use the spare set of pieces for practice rather than save them for another box as I originally intended.

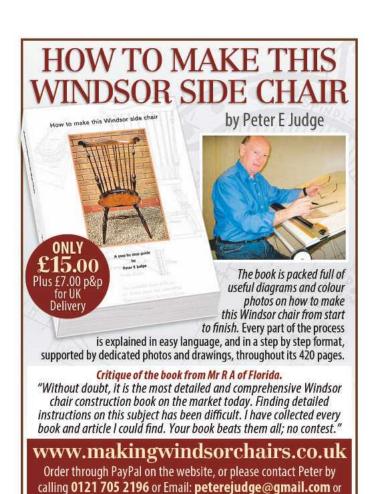
I now see that my lack of confidence shows in some areas that could have been more aggressively contoured. Holding the small pieces down was an issue, but I solved it by gluing them down with pva adhesive to a piece of paper that was itself glued to a block. Separation afterwards was easy, and the paper residue was easily removed by rubbing on abrasive paper held down to a flat surface.

A word of warning

Now you might be wondering how I came to have the grain running across the first cat's forehead. Well, that's a lesson: take great care not to lose any of the pieces, because believe me: cutting out that replacement and getting a passable fit with all the adjacent pieces was not easy. When I realised I'd got the grain wrong, there was no way I was doing it again!

The final touches - a piece of felt glued to card for the bottom liner, and some self-adhesive fabric under the base - were added after varnishing.

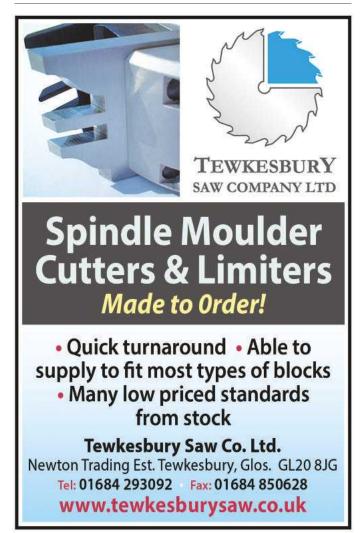
All in all, this represented a refreshing change from my normal line of woodworking, and a satisfying outcome too. Now all I need to do now is make half a dozen more for my curious friends!



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Get one free!



This unpromising butt of yew contained a large radial split from the pith

I'm a great believer in getting something for nothing, especially when it gives me the chance to turn something unusual. Here's an example of what Mother Nature can provide...

ne of the best ways to obtain 'free' wood is to make friends with a local tree surgeon. Encourage him to contact you when he's about to cut down a tree that you might be interested in. If possible, go along to the site and watch him cut it down – from a safe distance! Then you can tell him what wood you want and, although he is very unlikely to convert the tree into bowl blanks for you, he'll cut it into manageable lengths.

Suits yew, sir

About two years ago I had a call from a recently cultivated surgeon who said he had a large yew tree and asked whether I was interested. When I saw the logs, they had a lot of internal rot and shakes, photo 1. There was a little usable wood among the rot, but there was a lot of work involved with a chainsaw to get at it... more work than I was prepared to do at the time. However, I didn't want to discourage my new friend, so



I was able to cut a similar unpromising piece of Leylandii on the bandsaw



This section of rot near the pith will need the superglue treatment later



With the blank held between centres, start by cutting the chucking spigot

I took the trunks, rot and all. I thought at the least I could cut it up for firewood.

A good tidy-up

That was two years ago. I'd simply dumped the logs next to my woodpile and left them there. Back to the present, I thought it was about time I tidied the pile and cut up some more firewood for next year.

The yew was in a pretty sorry state, but some of it had an interesting cross-section and I thought I might try to make an endgrain bowl from a piece. This was really an excuse to stop cutting firewood and get back to the lathe!

I then came across a smaller log of Leylandii that also had an unusual crosssection. I decided to make an endgrain

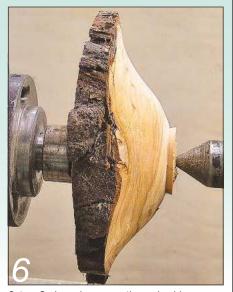


Change to a larger bowl gouge to shape the outside of the blank

bowl from this first, before tackling the yew. Engrain bowls from the whole log will have the pith in the bottom. The bowl is also likely to develop radial splits, particularly in hardwoods. You won't be able to hide these splits, so it's better to make a feature of them by using contrasting coloured wood or metal dust mixed with superglue.

Preparing the blank

The Leylandii branch was about 150mm across at its widest point, and was small enough to cut on my bandsaw, **photo 2**. After taking a small slice off one end to expose fresh wood, I cut a 50mm thick blank that would become my bowl. **Photo 3** shows this slice with the pencil pointing at

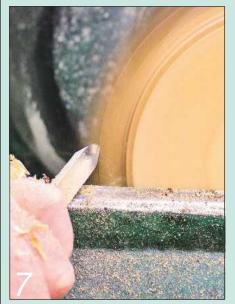


Cut an S-shaped curve on the underside, finishing up with a shape shown

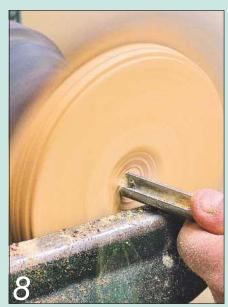
the pith and a little bit of rot. I hardened this part by flooding it with thin superglue.

Starting to turn

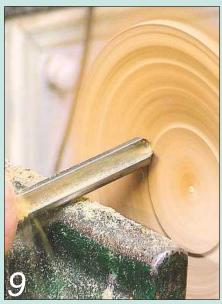
Knock a four-prong drive into the centre of the piece and mount it on the lathe between centres. Remember that this is an endgrain piece, so cutting with the grain means cutting from the widest diameter to the smallest, just like spindle work. I used a %in spindle gouge to turn a spigot, **photo 4**, and then changed to a larger bowl gouge to shape the outside, **photo 5**. I wanted to keep the interesting shape of the log around the edge, so I cut an ogee or S-shaped curve on the underside of the bowl, finishing up with a shape shown in **photo 6**.



Use a small fingernail profile gouge to clean up the face of the bowl



Start to hollow the bowl by cutting with the grain, just like hollowing a box



I also tried hollowing in the conventional way, as I would for a side-grain bowl



This worked surprisingly well, and I still achieved a good clean cut

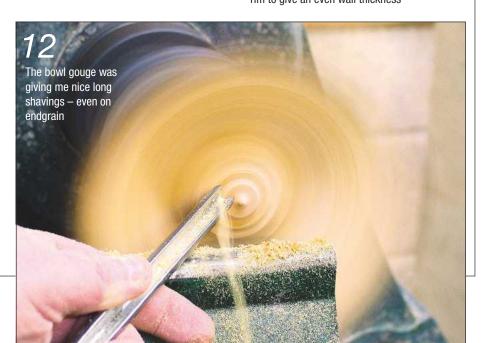


Before completing the hollowing, cut the rim to give an even wall thickness

Back to front

Reverse the bowl onto the chucking spigot and use a small fingernail profile gouge to clean up the face of the bowl near the bark. This is not the easiest of cuts because of the unevenness of the bowl's perimeter. You will be cutting air, then wood, then air again until you get past the bark. Keep the handle of the tool low and, with the tool well over on its side, use the tip of the cutting edge to make the cut, **photo 7**.

I started to hollow the bowl cutting with the grain, just like hollowing a box. Start in the centre of the bowl and swing the handle away from you, **photo 8**. While I was achieving a clean cut, it felt a little awkward, so I tried a few cuts in the conventional way for bowl



TURNING An endgrain bowl



The bark came off in a couple of places, so I scorched the edge with a blowtorch



I had to repair the rotten area a couple of times with superglue and sawdust



Power sanding keeps your fingers safely away from the uneven edge



Apply the finish of your choice with the piece stationary on the lathe. I used Danish oil



Reverse-chuck the piece onto a padded mushroom-shaped dolly...



...and use a small spindle gouge to remove most of the chucking spigot

turning, **photo 9**. This worked well and I still achieved a good clean cut, **photo 10**.

Refining the rim

Before I removed too much bulk from the centre of the bowl, I wanted to refine the rim and get an even wall thickness. Take another look at **photo 6**. You will notice that the bark is thick in some places and thinner in others. This is because the bowl isn't round. These pieces always look better if the bark is an

even thickness, and the way to achieve this is to make the inside shape or profile match the outside shape – at least until you cut into solid wood. Go back to the smaller fingernail profile gouge and continue to make the same cuts as at **photo 7** until the rim is an even thickness, **photo 11**.

Next, complete the hollowing of the bowl, **photo 12**. The bark came off in a couple of places as I did this, so I scorched the bare edges with a blowtorch to simulate bark,

photo 13. The rot shown in photo 3 went right through the piece, so I had to do several repairs with sawdust and superglue to fill the hole, photo 14.

Finishing the bowl

Sand both the inside and outside of the bowl down to 400 grit. I much prefer to power-sand pieces like this as I don't want to put my fingers anywhere near the uneven rim, **photo 15**. However, take care not to sand too aggressively as you may generate heat checks in the endgrain. I like to give the piece its first coat of oil when it's still on the lathe; I used Danish oil here, **photo 16**.

To remove or tidy up the chucking spigot, mount a dome-shaped dolly in the chuck and sandwich a thin piece of leather or several sheets of paper towel between it and the bowl. Bring the tailstock centre up to the original mark on the underside of the spigot, **photo 17**. This method of reverse chucking gives you access to most of the spigot.

Use a small spindle gouge to remove it, **photo 18**, leaving just a small stub for the revolving centre. This stub is then sanded away by hand off the lathe. Give the piece a couple more coats of oil, allowing it time to dry between coats, and you have a finished bowl... not bad for a piece of wood originally destined for the wood burner! Now to tackle the yew.



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BY CHRIS CHILD

Birch perch

Every spring I attach a birch log bird box to the oak tree outside my office, and within hours of the box going up, a pair of blue tits has started to make their nest. It's a great reward for a couple of hours on the lathe

ou can use almost any wood to make a bird box, but silver birch is ideal as it's soft and easy to hollow out. It also has very attractive bark, which gives the box an organic and natural

appearance.

You'll need an evenly balanced log which is free from large knots, about 150mm in diameter and 250 mm long, preferably cut from a tree that was felled a few months earlier so it's begun to dry out.

Getting a grip

Find the centres at each end of the log, photo 1, and mount it between centres on the lathe. It's a good idea to test that the log is held tightly enough by locking the headstock and then attempting to twist the log round by hand. If you can twist it off its drive centre, give the tailstock handwheel a few more turns to tighten it up. Set the lathe speed to 500rpm (or less) and you're ready to start work.

The first cuts

Flatten off one end of the log with a parting tool or gouge, **photo 2**. The gouge produces a cleaner finish, but

requires a slice cutting technique. Position the toolrest at a 45° angle to the corner of the log and place the gouge slightly on its side with its bevel in line with the direction of cut. Then very slowly bring the cutting edge into contact with the corner of the work and feed the tool forward, applying only as much pressure as is required to keep the cutting edge in place. Leave a small central spigot so that the work can be more easily centred on a faceplate.

A fast fixing

When it comes to attaching the faceplate, there are no hard and fast rules on how many screws to use and how deep they need to penetrate. To hold this log, I used four Spax screws, **photo 3**, which penetrated the end grain by 30mm. They are precision-machined from hardened steel, and have serrated threads which cut straight into most woods without the need to drill pilot holes.

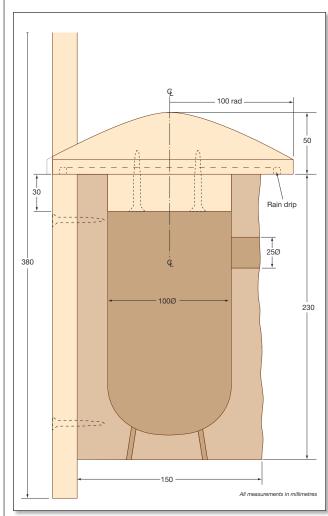
If you're in any doubt about the hold, give the log a thump with the side of your hand to test whether it is secure on the faceplate before you proceed with the next stage.

A hollow heart

Slice the end of the log smooth with the gouge, using the same technique as before. You can then either start hollowing out the bird box straight away using one of the three hollowing tools mentioned below, or bore out the centre first with a large-diameter sawtooth bit, **photo 4**.

1: The Supertip 2000

I began hollowing out the log with the Supertip 2000 from Henry Taylor Tools, fitted



with their Loop Hollowing Tool tip. Before you start work, you need to adjust the height of the toolrest so that, with the handle held horizontally, the centre of the cutting edge of the tool lies diagonally across the centre of the workpiece. Start the cut by angling the bevel of the tool in line with the work face, and feed the edge slowly into the corner of the opening made by the sawtooth bit. At this point there is no support for the tool's bevel, and the edge can easily snatch and get pulled down the side of the hole. Your cut needs to be very light, so you can maintain control.

Once you have traversed the difficult corner, you can relax a little and let the tool feed itself across the rest of the face – which it will do as long as a suitably shallow depth of cut is maintained. If you have the angle right, the bevel will perform like the sole of a plane, preventing the edge from cutting too deep. Watch for a spiral flow of fine shavings to indicate that the tool is cutting correctly, **photo 5**.

Stop the lathe and sweep the walls of the cavity clear of shavings after each run. With confidence, you can take quite a heavy slice, at least while the cavity is shallow, but reduce the depth of cut as you work further away from the support of the toolrest.

2: The Versatool

I then tried the BCT Versatool fitted with its scraper tip. It doesn't produce as clean a finish as the Supertip... but it is easier to use. The stabiliser bar which lies flat on the tool rest prevents the tool from twisting over, **photo 6**, cancelling the need for the long handle usually required when hollowing.

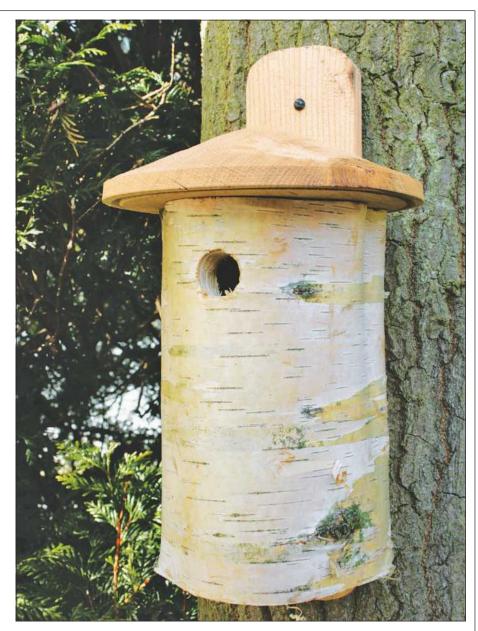
Incidentally, BCT (Bierton Craft Turnery) no longer produce this tool, but the manufacturing rights for the BCT product range have been taken up by The ToolPost. For more details, visit www.toolpost.co.uk

3: The Hollowmaster

This tool from Robert Sorby has a similar scraper tip to the Versatool, but relies on a long handle for stability, even though it has a flat ground surface on its underside. The long handle compensates for the fact that the tool has to be supported at the rear of the swan neck, **photo 7**, causing a long overhang over the tool rest.

The swan-necked shaft allows you to under-cut and also to form cavities with narrow necks. Like the Versatool it scrapes rather than cuts, but I don't suppose the inhabitants of the bird box mind if the finish is not quite as smooth as it could be.

To finish off the inside walls of the box I used the Supertip again, **photo 8**, but this





Find the centres at each end of the log and mount it securely on the lathe



Attach a faceplate to the trued-up end; I used four Spax screws



Slice one end of the log flat with a gouge or parting tool



Use a large-diameter sawtooth bit to bore out the centre of the log

TURNING Birch log bird box



Option 1: using the Supertip 2000, fitted with the Loop Hollowing Tool tip



Option 2: hollowing the log with the **BCT Versatool Hollowing System**



Option 3: working with the swan-necked Hollowmaster; note the long overhang



Finish the inside of the log using the reverse edge of the Supertip 2000



Use a bowl gouge to form the conical slope to the bird box roof



Cut a groove all round the edge of the underside to form a rain drip

FURTHER INFORMATION



Plane a flat area on one side of the box so you can attach the back plate



Cut the back plate to size and screw it securely to the back of the box





Cut a notch in the edge of the roof and fit it in place on the box



BCT Versatool ■ The ToolPost



Bore out the entrance hole; a diameter of 25mm is the ideal size for blue tits

time by drawing it backwards using its reverse edge to cut.

All the tools formed a cupped floor at the bottom of the box, ideal for holding a bird's nest and forming a slope to drain away any rainwater that gets into the box.

A simple cone

You can make a simple conical lid for the bird box from any odd disc of wood, so long as it's wide enough to form a generous overhang all round. Saw your blank into a disc and mount it on the lathe using a faceplate. Trim the rim smooth using a bowl gouge by slicing in from each corner in turn.

Use the same gouge to form the slope on the top of the roof by slicing from the centre of the disc towards the edge, photo 9, working with the grain. Then cut a narrow groove all round the edge of the underside, photo 10, to act as a rain drip.

To locate the lid on the box, saw or turn a 30mm thick disc and screw it to the underside of the conical roof. Make its diameter about 5mm less than the hollowed-out centre of the box, to allow for the walls of the box shrinking when they dry out over time.

A sturdy mount

Plane a flat surface to the back of your bird box, photo 11, so you can screw on a backplate for mounting the box on a tree or outside wall, photo 12. Drill a 25mm entry hole in the front of the box, photo 13. Enlarge the four holes left in the bottom of the box by the faceplate fixing screws, and drill all the way through them at an angle to provide drainage holes.

Finally, cut a notch in the edge of the roof to fit round the backplate, photo 14, and your bird box is ready to install. You can leave all the wood in its natural state.

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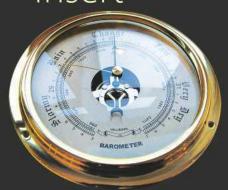
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 - Reasonable prices

CONS None at these prices!

VALUE FOR MONEY PERFORMANCE

FURTHER INFORMATION

- Einhell
- 0151 6491500
- www.einhellpowerxchange.co.uk

Cordless power tools have been available for many years now. In the past, home users were restricted to using lowerpowered machines; the more powerful professional tools were too expensive and too heavy.. However, things have changed. Battery technology has now advanced to such an extent that powerful, lightweight machines are now available. This new range from Einhell has features that used to be the exclusive preserve of the professional, but at a far more affordable price.

The tools on test

Several manufacturers already offer single-battery ranges where the tools are sold 'bare' - in other words, without batteries - allowing you to buy one charger and as many batteries as you need. The new Einhell range includes a useful selection of workshop and garden power tools along with a pair of 18V Li-ion batteries and a high-speed intelligent charger. We've selected a set of four tools - a combi drill, a jigsaw, a multi-sander and an all-purpose reciprocating saw - to review here... and to give away to three lucky readers!

Charger and batteries

Before describing the individual tools, it's worth detailing the power and charging options. There are two batteries available, rated at 1.5Ah and 3.0Ah and costing £44.99 and £69.99 respectively. The Ah (Amp/hour) rating refers to the battery's capacity, not its power, so the higher the rating, the longer the run time. It makes no difference to the machine's performance, just how long it performs for. The smaller battery recharges in 30 minutes, while the larger one takes an hour. Both batteries have integrated charge indicators to display the amount of power remaining.

The intelligent charger is equipped with an array of indicator lights to report on the state of the battery and its charging status, and is priced at £34.99. You can buy both batteries and the charger together for a combined price of £129.99.

Summing up

While many of us may hanker after a workshop full of high-end professional cordless tools, most of us can't really justify the high cost involved. However, the Einhell Power X-Change range offers a selection of perfectly acceptable tools for an extremely realistic price. The machines all work well, are properly designed and robustly made. The batteries are easy to change and charge quickly. For the keen woodworker and light trade user, this Einhell range would be a sensible choice and can be built on as further machines are added. AS

This cordless impact drill will tackle a wide range of drilling and screwdriving jobs, and comes complete with a 1.5Ah battery and an intelligent charger

Einhell TE-CD 18-2 Li-i combi drill

If you're only going to have one cordless drill, a combi drill is probably the best choice. The combi is the most versatile of the cordless drill family as it can be used for screwdriving, drilling and also hammer drilling. In the past combi drills tended to be heavy and cumbersome, due to the extra mechanism needed for the hammer action and the large batteries required to supply enough power. However, as with all these tools technology has advanced, and both the batteries and mechanisms have reduced in size, making these tools much more manageable. This Einhell drill is a compact tool with some attractive features and competent performance.

Standard features

The drill is supplied in a storage case with a side handle, a depth stop, a charger and a single 1.5Ah battery. Obviously it can also be used with the larger 3Ah battery too. It's a conventional-looking tool with a keyless,

one-handed 13mm chuck and a single torque ring. This has 22 marked torque settings for driving screws, plus the usual drilling and hammering options. A handy removable side handle is supplied with the drill, and the drill depth stop is inserted into this if required.

Two speeds are available and there is a selector switch on top. Behind is a pair of arrow-shaped lights to indicate the direction of rotation. The trigger is variable speed and above it is the direction-of-rotation slider. A bright LED worklight is installed at the base of the handle which shines up towards the chuck. A useful belt hook is included and this can be fitted to either side of the drill.

Using the drill

The performance of this combi is impressive. It can easily drive large flat bits in timber, and is also a competent screwdriver. What really impressed me, however, was its hammer drilling. It powered its way through a thick

The bright LED work light in the base

shines up towards the chuck

concrete block without hesitation, a feat many machines that cost twice the price would have been proud of. The only problem was that the torque ring was rather stiff to move to the hammer setting, though I would imagine that this will ease off in time.



104.99

 BATTERY
 18V 1.5 or 3.0Ah Li-ion

 CHUCK
 13mm keyless

 SPEED RANGES
 0-320 & 0-1350rpm

 TORQUE SETTINGS
 22

 MAX TORQUE
 48Nm

WEIGHT 1.8kg
ACCESSORIES Carry case, side handle,
depth stop, battery and charger

VERDICT

The overall performance of this combi drill is pretty impressive.

PROS Side handle with depth stop

Excellent hammer drilling

■ Useful LED work light

CONS Torque ring a little stiff to start with

VALUE FOR MONEY
PERFORMANCE



The battery's indicator lights warn you when it needs recharging



The torque ring is clearly numbered, but was rather stiff to turn



The drill happily bored large-diameter holes in wood and man-made boards



Its performance when drilling into a concrete block was very impressive



The tool is a competent screwdriver, thanks to 22 torque settings

A cordless jigsaw really is a go-anywhere cutting tool, and this model offers a wealth of features to give excellent all-round cutting performance as well as good dust extraction

Einhell TE-JS 18Li jigsaw

I'm a big fan of cordless saws as there's no risk of cutting through the power cable. The first cordless saws tended to be rather feeble and not really a great deal of use. However, these days they are considerably better. This Einhell model is a good example. It's simply designed and easy to operate. It has a solid alloy baseplate which can be tilted to 45° for bevel cutting. This is easy to do as there is a lever on the right-hand side that releases the lock. On the left side of the machine is a large lever with four positions that controls the pendulum motion of the blade.

Standard features

On the front of the tool is a hinged Perspex shield which can be opened to access the blade-changing mechanism. This is a tool-less system which works well, but is a little stiff to operate. On the front of the machine is a bright LED worklight which

shines directly down onto the cutting line. The main handle is covered in smooth soft-grip rubber for comfort, and there is a variable speed trigger with a sprung safety button mounted above it. This button is double-ended, so is convenient for both right and left-handed users. The saw is supplied with a side fence and a removable dust extraction tube.

Using the saw

The battery slides easily onto the rear of the machine, the blade clips into its holder and off you go. This is an effective tool. It's comfortable to hold, and the variable speed trigger is sensitive and controllable. Surprisingly the saw came without any blades, but it can be fitted with any standard



SPECIFICATION

BATTERY	18V 1.5 or	3.0Ah Li-ion	
NO-LOAD SPE	ED	2400spm	
STROKE HEIG	HT	25.4mm	
MAX CUTTING CAPACITY			

MAX OUT TING		
	wood	80mm
	plastic	12mm
	steel	10mm
WEIGHT		1.6kg
ACCESSORIES	side fence,	extract tube

VERDICT

This is an effective tool which cuts well and is easy to control.

PROS Baseplate easy to tilt and set

- Double-ended safety button
- Good orbital action

CONS Supplied without any blades

■ Blade change mechanism a little stiff





The saw is comfortable to hold and easy to manoeuvre on curved cuts



This large lever is moved to select the required pendulum setting



The tool-less blade change mechanism was a little stiff to operate



A lever on the side of the body releases the adjustable soleplate



The bright LED work light shines down directly onto the cutting line

Delta sanders have a particular advantage over other sanders with their rectangular or round sanding plates; they can sand right into internal corners. This one collects its own dust too

Einhell TE-OS 18Li multi-sander

A lightweight sander is always useful for final finishing work, and one with a delta-shaped pad is preferable as it can reach into corners and confined spaces. This Einhell sander is a compact and neat tool with a smoothly shaped body and an integrated clear plastic dust box. The top of the machine is covered in soft-grip rubber which makes it comfortable and easy to hold. The power switch is neatly recessed into the front part of the body.

It's supplied with a set of six perforated abrasive paper sheets which are attached to the sanding plate by means of a Velcro-type hook-and-loop system. The dustbox can be removed and a dust extraction adapter is included for connection to a workshop vacuum. With the dustbox fitted, there is only room to install the 1.5Ah battery, but with it removed and the adapter attached it is then possible to fit the 3.0Ah battery for longer run time.

£24.99 (bare)

Using the sander

Sanders can be irritating machines, particularly if they are

difficult to grip comfortably or vibrate a lot. Happily this is not the case here. The Einhell is a simple and efficient tool. It fits comfortably in the hand and runs smoothly without excessive vibration. The abrasive sheets stick securely to the sanding pad, and the dust box manages to collect a fair amount of the mess. The motor is eager and the general performance is good. It all adds up to a worthwhile machine at a real bargain price.



SPECIFICATION

 BATTERY
 18V 1.5 or 3.0Ah Li-ion

 SANDING PAD
 105 x 93 x 60mm

 NO-LOAD SPEED
 12,000rpm

 OSCILLATIONS
 24,000/min

 OSCILLATION CIRCUIT
 1.6mm

 WEIGHT
 800g

ACCESSORIES dust box, extract adaptor, 6 sanding sheets

VERDICT

This is a simple yet effective tool, sanding well with little vibration.

PROS Compact and manoeuvrable

- Offers alternative modes of dust collection
- Hook-and-loop abrasive attachment

CONS None

VALUE FOR MONEY PERFORMANCE



The sander is comfortable to grip and the switch is well positioned



With the dust box fitted, only the smaller 1.5Ah battery can be used



...and clip the larger 3.0Ah battery into the rear of the sander body



For longer run time, unclip the 1.5Ah battery and the dust box...



You can then connect a workshop extractor using the adapter supplied

This all-purpose saw – also known as a reciprocating or sabre saw – is an excellent all-rounder. It will cut wood, metal or plastic, in the workshop or down the garden

Einhell TE-AP 18Li all-purpose saw



This all-purpose reciprocating saw is a fairly crude but surprisingly useful tool. Equipped with the correct blade, it can deal with a variety of materials, from wood and plastic to metal. It is especially useful for flush-cutting pipework, cutting holes in sheet materials and general rough sawing work.

This model is a particularly well-designed example. It has a slim angular body with a comfortable rubber-covered main handle and a rubber-covered front end. It has a

variable speed trigger with a safety button above. At the front of the machine there is a simple tool-less blade changing system which twists and locks to hold the blade securely in position.

The machine foot, which is the plate that you press against the workpiece to stabilise the tool in use, is adjustable and there is a red button to release it so that it can be repositioned as needed.

Using the saw

I really liked this saw. It sits comfortably in the hand and is well balanced. The blade change is simple and reliable, and the trigger is sensitive and controllable. It performs well, feeling powerful and running smoothly. It will accept standard saw blades which are widely available. Overall it represents a lot of saw for your money.



The tool-free blade change mechanism locks the blade securely in place



The machine foot can be released for adjustment by pressing this red button



Keep the machine foot pressed against the work to eliminate vibration

SPECIFICATION

 BATTERY
 18V 1.5 or 3.0Ah Li-ion

 NO-LOAD SPEED
 0-2600spm

 STROKE LENGTH
 22mm

 MAX CUTTING CAPACITY

wood 100mm metal 6mm

1.6kg

VERDICT

WEIGHT

This is a lot of saw for your money, with excellent all-round performance.

PROS Light and easy to handle

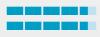
Plenty of power

Keyless blade change

Adjustable soleplate

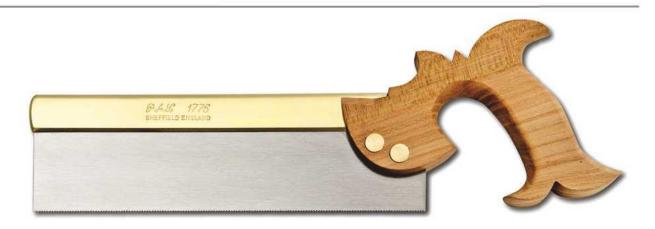
CONS None

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This FatMax cordless drill/driver is sold in a strong plastic fitted case which also holds the dedicated fast charger. A 30-piece accessory set in a separate case was included with the tool we reviewed

Stanley FatMax

10.8V cordless drill/driver



Fast charging

The 10.8V lithium-ion battery clicks right inside the handle and doesn't protrude in any way. This makes it very neat, although the drill won't stand on end like some of the larger drills with bigger batteries. It takes 30 minutes to charge up and the charger has a light to indicate when the battery is ready.

Torque and turn

The torque setting can be adjusted by means of a clearly marked index ring on the front of the body, and there is a two-speed selector switch on the top. The overall speed is adjusted by pulling the trigger back, offering 0 to 315rpm on setting 1 and 0 to 1200rpm on setting 2. The forward/reverse switch is ergonomically well placed.

Free goodies

The case of accessories supplied with the tool contained a good selection of useful general-purpose items, listed helpfully on the back. There are eight titanium-coated HSS twist drill bits, five brad-point bits for wood, four masonry drill bits, a magnetic bit holder and a countersink. The drivers include Phillips Nos 1 and 2, Pozidriv 1 and 2, Torx 15, 20 and 25 and 4 and 6mm flat-tip drivers for slotted screws. All these items click neatly into the two racks in the case, which can be swivelled upwards or removed completely.



The driver comes in a strong plastic case which also holds the charger



This drill is well balanced and its handle is comfortable to use



The slim Li-ion battery clicks neatly into place inside the handle



The kit contains a good selection of useful generalpurpose items

The keyless chuck takes drills and bits up to 10mm in diameter



Using the tool

The Stanley Fatmax is very attractive as a complete package with a bright and easily seen body. No extras are required and you can be up and drilling very quickly. Stanley has always been a recognised woodworking brand in hand tools, and most of us will have at least one tool in our collection with a Stanley badge. Most of their products today are made in China, but they are of good quality and are well priced.

This is a useful drill/driver to have in a small workshop, and it is a great advantage not to have a mains cord getting in the way, especially when undertaking jobs around the house and outside in the garden. I needed a light drill/driver to replace an older, heavier one that had finally died on me. I selected the Fatmax off the shelf in Homebase and am very pleased with its performance and its very reasonable price. *IW*

SPECIFICATION

BATTERY		10.8V Li-ion
CHUCK	1	0mm keyless
SPEED RANGES	0-315	& 0-1200rpm
MAX TORQUE		27Nm
MAX DRILLING CAPACITY	wood	25mm
	metal	10mm
WEIGHT		1.1kg
ACCESSORIES 30-minute charger	, carry case, so	crewdriver bit

VERDICT

This medium-priced drill offers good performance and a useful range of features.

PROS Well balanced and comfortable to use

- Neat and unobtrusive battery placement
- Good LED work light

CONS None

VALUE FOR MONEY PERFORMANCE



FURTHER INFORMATION

- Stanley Tools
- **1** 0114 291 7146
- www.stanleytools.co.uk

The drill happily drilled holes to the maximum sizes quoted in both wood and metal





The charger has a light to indicate when the battery is ready



The torque is adjusted by means of a clearly marked index ring



The contents of the case of accessories are helpfully listed on the back

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01536 771455 (Leics/Northants)



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07881 914323 (Hampshire)

DeWalt 678 planer, 82mm cutter, 25mm rebate, with spare blades, little used so as-new condition; £60. Buyer collects.

01294 673236 (Ayrshire)

Bosch table saw, 240V model GTS10; £320.

020 8248 0335 (West London)

Hollow mortiser chisels, set of 8, 10 and 12mm sizes with ¾in shanks, boxed and as new; £18. Hollow mortise chisel sharpener set (Multico No 1/539), in good condition; £18. Each price includes p&p.

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My advertisement (max 20 words please) reads as follows:

In your own write

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A BETTER BOWSAW

Dear Mark

It was refreshing to read Robin Gates's article on the bowsaw in the March issue of The Woodworker. I'm pleased to discover that I'm not the only proponent of this practical but now neglected tool. My own bowsaw belonged to my great-grandfather, and is probably about 150 years old!

May I mention a couple of small improvements which are completely non-invasive? The Spanish windlass will benefit if the cord goes over a bobbin. This can be carved from a scrap of close-grained wood, ideally to an elliptical profile, and pierced to take the toggle stick. This makes adjusting the tension so much easier, particularly for half-turns.

Losing the blade retaining pins is annoying. It usually happens when you're working one pin and the other pops out by itself. I use a bit of aluminium tube with a lengthwise slit, squeezed (or expanded) to be a push fit over the ferrules at each end and cover the pins. Plastic tube of appropriate bore would work just as well.

By the way, I prefer to use carbon steel (silver steel or piano wire) for replacement pins. Panel pins are too soft and can bend, making it fiddly to relocate the holes. Hope this helps. Regards

John

Thanks for your email, John. Yes, I have to agree with you on what a good tool the bowsaw is. Sadly I don't possess one (yet!), but I have used one or two and have always been pleasantly surprised at the ease and balance of the tool. Top tips too!

A WHIFF OF DANGER

Dear Mark

I don't want to sound like the stereotypical 'elf 'n' safety officer the media loves to portray, but I would feel rather guilty if I didn't raise an issue in the March 2015 issue of the magazine. On page 31, photo 10 shows a table saw being used with a mitre fence to cut housings. This is a hobby situation, so the very specific regulations for work situations don't apply. However, of all the legislation I enforced as one of HM's Inspectors of Factories, the woodworking regulations were almost all based on real-life experience of what causes (and what helps to prevent) injury. They should therefore be the standard that hobby woodworkers strive to follow for their own safety.

The picture itself shows the potential problem, with fingers wrapped around the blind side of the workpiece, on a saw where the top or crown guard has been removed. One simple slip of concentration in placing that right hand too low and... I've actually seen this happen far too often over many years.

Just because we do this for a hobby, we shouldn't take risks. The project is a nice one, and it would have easy to say that the bandsaw can be used for exactly the same purpose with much increased safety.

Geoffrey Laycock

Hi Geoffrey,

I have to agree with you. I think this activity is firmly in the category of 'needless risk', and could easily be carried out in other safer ways. I shall keep a closer watch on this sort of thing in future, and will remove any photos and references which could encourage incautious working. I appreciate your vigilance.

Mark

STICKY LIDS

After reading about Ian Wilkie and the rogue lid on his tin of sanding sealer, I thought that you might be interested in the way I overcame this problem.

Select an empty squeezy sauce bottle of the correct size (not too large, to keep the air volume inside to a minimum), wash it out and dry off the inside. Then pour in your sealer, screw on the top and snap the lid shut: job done.

There's no problem with the lid sticking; any dried-on sealer just flakes off it when touched. The flow from the bottle can easily be regulated by the amount of squeeze applied, and because the opening is so small there's no need to keep closing the lid between applications. Best of all, if it gets knocked over virtually nothing leaks out!

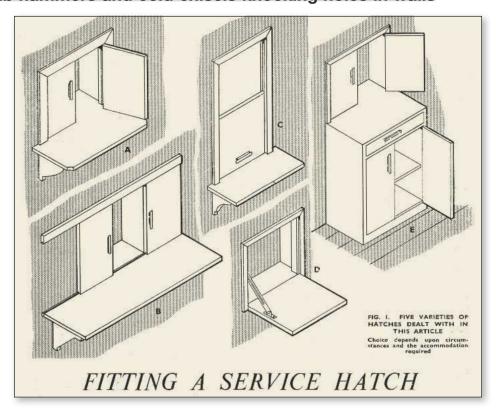
Best regards Ron Brindle, Luton

Good stuff Ron! Where would we be without plastic containers? I remember being really impressed the first time I saw white glue in a Fairy Liquid bottle! Mark

www.**getwoodworking**.com

Though the hatch

The serving hatch was in its day quite a revolutionary bit of home improvement. It didn't take long for 'The Hatch' to catch on, and soon - before you could say 'where's my bolster?' - homes throughout the land were ringing out to the sound of club hammers and cold chisels knocking holes in walls



Every now and then, either on my extensive travels around the UK in search of items of woodworking interest, or just visiting the home of a potential customer, I come across a domestic architectural feature that always brings a smile to my face. Yes, I'm talking about The Hatch.

Little boxes

Before the advent of the 1960s open planning and the bringing down of many an internal wall in semi-detached and terraced houses up and down the land, most homes were more strictly compartmentalized than today. While some larger houses benefitted from the 'dumb waiter' type which can scoot a plate up or down a mini-lift shaft, it wasn't until someone had the bright idea of knocking a hole in the kitchen wall that the hatch as we know it came about. And I strongly suspect that the first hatch was

born of necessity, as a means of avoiding a longish walk from kitchen to dining room with rapidly cooling plates of food in hand.

Magic moments

Growing up myself in a house with a hatch, I often found it slightly magical. The sudden appearance of a disembodied head 'floating' over a table or bookcase would always make me smile, and for the curious child it occasionally offered an alternative and novel way of getting directly from A to B when there was no one around.

Multiple choice

The hatches shown here from an article in The Woodworker from April 1955 represent a good cross-section of the varieties that would soon be found in towns and cities around the land. Sensible advice was provided, and wasn't just restricted to the

woodworking side of things either. Oh no: basic preparation as well as the relevant building skills were recommended, and I would have thought that any householder embarking on this project would have felt pretty well fore-armed as he set off on this campaign.

The piece makes a fascinating read, and is just one more example of how our magazine was – and still is – more than just a 'how to' instructional guide, but almost something approaching a friend in paper form; someone who will advise on the best course of action but will leave any criticism to the reader himself.

More from The Woodworker archive next month...

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